



# **ELECTRIC SERVICE POLICIES MANUAL**

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# Policies Manual

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IPL Construction Service Standards are available on request.



## FOREWORD

The standards contained herein are supplementary to, and not intended to conflict with, the NEC ANSI/NFPA 70, the National Electrical Safety Code (NESC) ANSI C2, and governing laws, ordinances, and statutes as may be in force within the corporate limits of the City of Independence in which the Independence Power & Light Department (IPL) furnishes electric service.

This manual is offered to assist customers, architects, engineers, contractors, wiremen and inspectors in the planning and construction of electric service installations in order to comply with IPL requirements. It is not intended to ensure adequacy and safety of the customers own wiring and equipment. Such responsibility remains with the customer.

IPL is dedicated to providing its customers quality electric service at the lowest possible price. One way IPL is accomplishing this is through use of uniform standards for installation, wiring and system design. These standards and requirements are intended to assist in expediting customer needs for service. Therefore, it is required that customers wiring, and installations intended for connection to IPL's system comply with these standards, the National Electrical Code (NEC) and any other codes or regulations in effect in Independence, Missouri.

IPL actively promotes electric safety through safety programs for schools and information programs for the general public. IPL encourages all companies and individuals to utilize this manual in a manner that furthers the cause of electric safety in our community.

Adopted by Ordinance No. \_\_\_\_\_, \_\_\_\_\_  
DATE

# **GENERAL INFORMATION**

**ARTICLE 1. GENERAL INFORMATION**

**SEC. 1.1 DEFINITIONS**

**ABBREVIATIONS** found within this manual:

- COI or CITY - City of Independence
- IPL - Independence Power & Light Department
- NEMA - National Electrical Manufacturers Association
- NEC - National Electrical Code
- NESC - National Electrical Safety Code
- AWG - American Wire Gauge
- MCM - Thousand circular mils wire size

**COMMERCIAL CUSTOMER SERVICE REQUIREMENTS** apply to any customer who installs an electric service in a commercial building as defined by the City of Independence zoning ordinance or a residential dwelling as defined by the City of Independence zoning ordinance with five or more meters.

**CUSTOMER** means any person or entity applying for, receiving, using or agreeing to receive electric service supplied by IPL under one rate schedule at a single point of delivery and for use within the premises occupied by such person or entity or any person, firm or corporation that improves, changes or converts land for specific use.

**CONTRIBUTION TO AID CONSTRUCTION** means a non-refundable cash payment from a customer to be paid toward the cost of extending its Distribution System, installation of streetlights and other additions or modifications solely for the benefit of the customer.

**DISTRIBUTION SYSTEM** means poles, structures, conductors, transformers, pedestals, conduits, manholes, pads, ground rods, substations, transmission facilities and other equipment owned or utilized by IPL to provide electric service. It does not include service lines.

**ELECTRIC INDUSTRY TERMS** means customary electric industry terminology that may be found throughout this document. Some knowledge of electric theory may be required for interpretation of certain topics.

**FACILITIES** means electric equipment installed for the purpose of facilitating the use or metering of electricity.

**INSPECTOR** means an employee of the City/IPL that inspects work performed by others.

**METER SOCKET** means a device used for mounting and connecting the electric meter.

**RATE** means a pre-determined charge for electricity consumed by a particular customer type.

**RESIDENTIAL CUSTOMER SERVICE REQUIREMENTS** applies to any customer who installs an electric service with four or less meters to a residential dwelling as defined by the City of Independence zoning ordinance.

**SERVICE ENTRANCE** means the conduit, wire, fittings and accessories provided and installed by the customer between the termination of the service line or drop and the customer's service equipment. (Includes meter socket for three gang meter banks and larger)

**SERVICE EQUIPMENT** means the main circuit breaker(s) or fused switch(es) and their accessories which constitutes the main control and means of cutoff for the supply to a customer's premises.

**SERVICE LINE OR DROP** means the electric line extending from IPL's distribution system to a customer's electric meter.

**SERVICE POLE OR PEDESTAL** means the pole or pedestal where a Service Line is connected to IPL's Distribution System.

**STREET LIGHTING SYSTEM** means the poles, luminaries, wires, etc. owned by IPL that are used to light public roadways.

## **SEC. 1.2 GENERAL**

- A.** Due to continuing advancement in methods, some procedures outlined herein may need to be modified from time to time. Upon request, revised information will be supplied concerning these changes and revisions, if any. They may also be obtained through the City's website, <http://www.indepmo.org/pl/>.
- B.** Exceptions may be approved when written requests are received and approved by the Power & Light Director. Approval of the exception will be based on merits of quality customer service or sound business practices.
- C.** IPL should be contacted about proposed installations as early as possible to allow time for necessary planning, scheduling, and proper coordination.
- D.** Where new electrical installations, additions or alterations are contemplated, inquiry should be made in advance of design or purchase of equipment relative to available voltage, point of delivery and extension of IPL's Distribution System.
- E.** Note, it is the customer's responsibility to install their service entrance equipment



and meter socket at the place indicated by IPL's representative. Failure to do so may result in unnecessary costs to the customer for service relocations and possible delays in providing service.

- F. Customer's installations shall comply with all requirements of the current accepted and applicable COI and IPL standards and codes.
- G. This manual is issued by IPL as a guide for obtaining electric service and to address available services, conditions for service and standards for materials and construction of the customer's service entrance. It is not intended to specify nor limit the design of the customer's wiring or equipment. The standards for materials and construction are necessary to assure efficient use of IPL's resources and are the minimum under which IPL will supply service. IPL reserves the right and authority to vary from the guidelines when it determines other solutions are more practical for the operation of IPL.
- H. Nothing contained in the standards shall require IPL to install area feeder circuits underground or require any part of its existing Distribution System to be placed underground.
- I. Standards identified herein supersede all previous publications of Electric Service Policies, Standards and Requirements issued by IPL prior to this date and are subject to change without notice.

**J. Representative Availability**

IPL has representatives whose services are available to customers. Within reason, the services are without charge as long as it pertains to issues and items within the IPL service territory. Excessive and repetitive requests could result in charges. These charges would be at the discretion of the IPL Director..

**K. Right of Access**

1. The customer shall give authorized representatives of IPL, when properly identified, full and free access to the premises of the customer at all reasonable hours. This access shall be for the purpose of installing, reading, inspecting, adjusting, repairing, maintaining, replacing, or removing any of IPL's Facilities on the premises of the customer or for any other purpose incidental to the electric service supplied by IPL.
2. Fences and other obstructions shall not be placed to restrict reading and maintenance of IPL's meters. Where meters are located beyond locked doors or padlocked gates, the customer's locking device shall have a keyway for dual key capacity that accommodates an IPL lock.

3. IPL representatives whose duty requires them to access the premises of the customer has an identification card bearing the employee's photograph. The customer should deny admittance to anyone claiming to be an employee who refuses to display a properly approved identification card. Any uncertainty of identity or purpose should be reported to IPL immediately.
4. Representatives of IPL may neither demand nor accept any compensation from a customer for service rendered during the performance of their duty.
5. The customer shall provide and/or describe all necessary easements or rights-of-way across property owned or otherwise controlled by the customer for the construction, operation and maintenance of IPL Facilities required to supply electric service. These easements shall be provided at no cost to IPL. Certain installations may require the customer to sign an indemnification agreement.

**L. Customer Responsibility for IPL Property and Clearances**

1. Breaking of seals, tampering with meters, wires or any other property belonging to IPL by unauthorized representatives of IPL is prohibited and may be punishable by law.
2. The customer shall protect the property of IPL on the premises of the customer and shall not permit anyone other than representatives of IPL and other persons authorized by law to inspect, work on, open or otherwise handle the wires, meters or other IPL Facilities. In case of loss or damage to IPL property due to carelessness, neglect or misuse by the customer, their family, agents, servants or employees, the customer shall pay to IPL the cost of any necessary repairs or replacements of such Facilities or the value of such Facilities.
3. Swimming pools (above or below grade) shall be constructed to provide a minimum distance as required in the latest and adopted versions of the NEC and NESC. Conductors are prohibited from passing over or under all pools and their associated decks.
4. Attachments of any kind or nature by non-IPL entities shall not be permitted on IPL poles without previous execution of IPL's Pole Attachment Agreement.
5. If practicable, IPL may relocate its existing Facilities at the request of a customer or as a result of a customer's construction activities. The customer shall pay all costs associated with relocating the Facilities. All costs shall be paid by the customer prior to issuance of a job order.
6. A customer shall use the electric service supplied by IPL with due regard to the effect that the customer's use has on other customers and on IPL Facilities and equipment. IPL may refuse to supply service or may suspend service to a

customer if the customer's service entrance wiring is not safe or is operated so as to disturb the electric service supplied by IPL to other customers.

7. IPL shall require a customer to provide, at customer's expense, special or additional equipment when a customer's use of electric Facilities results in an interference with the quality of the customer's own service or that of neighboring customers.
8. Care shall be taken by the customer in the installation of antennas near IPL power lines such that under all conditions, the installation will not be under or fall across IPL lines nor contact them in any way that may be considered hazardous to life or property. Should a customer's antenna cause any damage to IPL facilities, customer shall reimburse IPL for all costs associated with repairing IPL facilities.
9. The customer is responsible for providing clearances as specified in the NESC when constructing structures on their property. The customer shall not construct or locate a building, structure or mobile equipment that violates latest and adopted versions of the NEC and NESC.
10. The location of buildings, structures (requiring building permit) or mobile equipment is prohibited above or beneath IPL's Transmission and Distribution System and within utility easements or rights-of-way.
11. The customer shall be liable to IPL for costs of any repairs or replacement of IPL Facilities located on the customer's premises that are lost or damaged due to change in characteristics of the customer's load that have not been reported to IPL.

#### **M. Discontinuance of Service**

1. The CITY reserves the right to discontinue utility service for violation of any rules, regulations or ordinances of the City of Independence relating to service (See "Combined Utility Customer Service Rules & Regs").

#### **N. Standby Service**

1. The customer shall not use any other electric power or lighting service, including stand-by generators, in conjunction with IPL's service, unless installed to NEC guidelines. To prevent operation of the customer's stand-by generating Facilities in parallel with IPL's service, the customer is required to obtain a permit for work associated with the installation which requires approval by COI Inspectors before the installation is acceptable to IPL. The customer's equipment shall not back feed upon the IPL system.

**O. Service Exclusive**

1. Electric service supplied by IPL is for the exclusive use of the customer on the premises to which such service is delivered. IPL will not supply electric service to a customer for resale or redistribution by the customer.

**P. Submission of Plans**

1. IPL does not design, plan, install or maintain the customer's wiring or electric equipment.
2. Customers shall contact IPL to obtain information relative to new electric service connections or changes in existing service. To obtain service at the time desired, an application shall be submitted well in advance of the desired in-service date and the customer shall keep IPL informed as to the progress of the relative work and when service is anticipated.
3. Prospective customers desiring the installation of new electric service or changes in service shall furnish a building plan, a one-line electric diagram and a completed "Request for Electrical Service Information" form before service will be considered. IPL will not design, plan, install or maintain any wiring or electrical equipment that is the property of the customer. IPL reserves the right to determine availability of voltage, phase of service, route of service, metering procedures and maximum fault current in any given area.
4. Where three-phase service is required, it shall be the customer's responsibility to balance distribution of the load between the three phases of service as evenly as possible to preclude an over-current condition on IPL equipment. Loss of IPL equipment due to an imbalance shall result in customer being billed for replacement costs for such equipment.
5. The customer is responsible for notifying IPL of proposed all-electric services during the plan submission stages of development or service upgrade.

**Q. Electric Rates**

1. The rates that IPL charges for different types of electric service are available for inspection by any customer during working hours at IPL's business office. They may also be obtained through IPL's website at [www.ci.independence.mo.us/pl](http://www.ci.independence.mo.us/pl).
2. Upon request, an IPL representative will explain the rate schedules. IPL will assign the rate schedule that is most applicable to the load type.

**R. Tree Trimming**

The customer shall permit IPL to trim or remove any trees within the easement that

IPL deems as necessary if they may interfere with the safe operation of IPL's Facilities. Except in emergencies, IPL will trim trees not more than every three (3) to five (5) years. During emergencies IPL will clear the lines of outage related trees and will leave the debris. Routine trimming is vital to maintaining safe and reliable service. For tree trimming around IPL facilities, this trimming is done at no cost to the customer. It is the customer's responsibility to trim trees for their own overhead service line. To avoid future problems and inconvenience, it is strongly recommended that customers consult IPL Forestry personnel when planting trees under or near overhead power lines.

1. IPL will disconnect service or streetlight lines for a fee to facilitate customer tree trimming or removal. This fee will be determined and based upon the amount of work required and materials needed.
2. Damage to a service line or the utility facilities due to customer/property owner neglect of trimming for service drop clearances shall result in a fee to restore the service and any repairs necessary to IPL facilities. This fee will be determined and based upon the amount of work required and materials needed.

#### **S. Service Quality**

1. IPL will use reasonable diligence to maintain continuous electric service to the customer but does not guarantee the supply of electric service against interruptions. IPL shall not be considered at fault or liable for any damages occasioned by system fluctuation or interruption of electric service.
2. IPL shall not be considered responsible or liable for failure by IPL to perform any obligation if prevented from fulfilling such obligation by reason of delivery delays, breakdowns of or damage to Facilities, acts of nature or public enemy, strikes or other labor disturbances involving IPL or the customer, actions of civil, military, or governmental authority or any other cause beyond the control of IPL.
3. IPL will use reasonable diligence to provide an adequate and uninterrupted supply of electrical energy within normal voltage limits. IPL shall not be liable, however, for personal injury, loss, or damages, if the electrical energy supply should be interrupted or subjected to voltage variation due to circumstances beyond the control of IPL. IPL shall have the right to temporarily suspend service for the purpose of making repairs or improvements to the system.
4. It shall be the obligation of the customer to notify IPL as soon as practicable if the customer's service is interrupted, unsatisfactory or if any hazardous condition is proposed or thought to exist.
5. Any devices required to protect the customer's equipment and premises shall be provided by the customer. IPL shall not be responsible for any damage to the

customer's equipment due to improper customer protective devices or improper use, installation or lack of appropriate protective devices.

6. Electric service is subject to occasional voltage fluctuation that may adversely affect the operations of sensitive controls in or on a customer's electric equipment. Devices available for use with most electric equipment will minimize the effect of such disturbances. IPL will assist the customer in identifying the source of the disturbance. IPL will not, however, assume any liability for damage to the customer's equipment nor disturbances in processes arising from such variations.
7. IPL reserves the right to limit the use of electrical energy any time that power shortages or equipment failures require IPL to place into effect a curtailment program which may include voltage reduction and rotating blackouts.

#### **T. Extension of Distribution System**

1. Costs associated with the extension of, or addition to, IPL's Distribution System must be recovered by IPL or justified by some combination of the following, as determined by IPL.
  - a. IPL's Distribution System will be enhanced or be made more reliable.
  - b. The extension is not solely for the benefit of the requesting customer and will serve future customers.
  - c. The anticipated revenue to be received after implementation of the extension or addition will offset IPL's investment as according to the current investment needs policy.
  - d. The customer submits a Contribution to Aid Construction, prior to start of work, for costs of the extension or addition as determined by IPL.
2. IPL will determine the feasibility of a proposed system expansion or addition prior to undertaking the work.
3. It shall be the responsibility of the customer to provide to IPL at no cost any information and/or property surveying as required for any work.
4. The customer may be required to provide a Contribution to Aid Construction for costs in excess of the standard Facilities installed for the applicable rate class.

#### **U. Conversion of Overhead Distribution System to Underground**

1. Costs associated with the burial of IPL's Overhead Distribution System must be
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recovered by IPL or justified by some combination of the following, as determined by IPL.

- a. IPL's Distribution System will be enhanced or be made more reliable.
  - b. The extension is not solely for the benefit of the requesting entity and will benefit others.
  - c. The anticipated costs of the conversion are sufficiently funded.
  - d. The entity requesting the conversion submits a Contribution to Aid Construction, prior to start of work, for costs of the conversion as determined by IPL.
2. IPL will determine the feasibility of a proposed system conversion prior to undertaking the work.
  3. It shall be the responsibility of the entity requesting the conversion to provide to IPL at no cost any information and/or property surveying as may be required for any work.
  4. Relocation of electric utilities due to roadway improvements associated with subdivision development shall be consistent with City Code sections 14 (Unified Development Ordinance) and 20 (Public Works Manual).

**SERVICE  
POLICIES AND  
REQUIREMENTS**



**ARTICLE 2. SERVICE POLICIES AND REQUIREMENTS**

**SEC. 2.1 GENERAL**

- A. IPL will provide only one point of delivery at one voltage type of electric service to new building services or customer-initiated upgrades.
- B. In serving any customer, IPL will, at its discretion:
  - 1. Determine the point of common coupling, voltage, and service characteristics that it will provide,
  - 2. Approve the location of the customer's entrance, equipment, and routing of its electric system from IPL's service connection point to the service entrance,
  - 3. Develop a detailed plan to modify IPL's Facilities to suit the customer's desires, if applicable. The customer may be required to provide a Contribution to Aid Construction for excess cost, and
- C. Customers are to balance the load on three-wire and four-wire systems. This is required for the customer as well as IPL's benefit. It will provide the customer with better voltage regulation and maximize use of the service entrance equipment.
- D. Electric facilities installed at IPL's expense on a customer's property for the purpose of serving that customer, will remain the responsibility of IPL. Electric facilities installed at customer's expense (i.e., metering sockets, current transformers, meter conduit for IPL use, etc.) shall remain the responsibility of the customer.

**SEC. 2.2 INSPECTION/APPROVAL OF CUSTOMER'S WIRING**

- A. New wiring and alterations in wiring are required to be approved by the City's electrical inspector prior to being served by IPL. IPL cannot provide service until this approval has been received from the City's electrical inspector.
- B. Any service that has been inactive in excess of 90 days shall be re-inspected and approved by the City's electrical inspector before being energized by IPL.
- C. The use of electric service supplied by IPL is the sole responsibility of the customer.

**SEC. 2.3 METERING**

- A. Self-contained metering equipment is intended for single-phase residential and commercial service up to 400 Ampere and three-phase commercial service up to 200 Ampere. For larger services, current transformers (CT's) are required which

are located remote from the meter.

- B.** Under no circumstances shall meters be removed or relocated, whether temporarily or permanently, except by IPL employees or electricians authorized by IPL to do such work.
- C.** IPL is willing to relocate its metering equipment and service attachment when required for modification to the customer's building or service entrance. However, IPL shall be reimbursed the costs for such relocation.
- D.** IPL owns and maintains all IPL billing meters and related metering devices. IPL shall have unfettered access to any metering devices that have been installed internal to a customer's premise.
- E.** To obtain a general service electric space heating rate, a separate meter is required. This additional meter shall be located at the service entrance. Only permanently installed heating and cooling devices are allowed to be connected to a separately metered circuit. IPL offers a special rate for residential space heating.
- F.** To obtain an all-electric rate, electricity must be the only energy source connected to the building.

#### **SEC. 2.4 OVERHEAD SERVICE**

- A.** When the customer is served by overhead service line, the customer will be served via a service riser attached to the outside of the building. Service entrance conductors shall be sized and installed in accordance with the latest edition of the NEC as adopted by the City of Independence.
- B.** The length of a service line from an IPL pole attachment point to the customer's premises will be limited by the ground clearance attainable at tensions appropriate to the strength of the wire and its supports.
- C.** The customer is to provide, in the construction of their building, a suitable service attachment (point of attachment) of sufficient strength to withstand the stress of IPL's service drop under NESC heavy loading conditions (1/2" radial ice and 4 lb/ft<sup>2</sup> wind load).
- D.** The point of attachment of IPL's service drop to the customer's mast must be of proper height and location to provide at all points in the span the minimum clearances above ground and from other wires and obstructions required by the latest edition of the NESC and other applicable rules.
- E.** Minimum vertical clearances as defined by the latest adopted and applicable NEC or NESC shall be maintained.

**SEC. 2.5 UNDERGROUND SERVICE**

When underground service conductors are installed by IPL, they will be terminated by IPL at the first point of connection with the customer at a point on the exterior of the building. This point will be the dividing line of responsibility between the customer and IPL (Point of Common Coupling) Wherever underground service conductors are installed by the customer; they will be terminated by IPL at the first point of connection with IPL's system and this point will be the dividing line of responsibility between the customer and IPL (Point of Common Coupling).

**A. Residential (see Article 3) B.**

**Commercial (see Article 4)**

**SEC. 2.6 TEMPORARY SERVICE**

**A.** Temporary service equipment shall be provided and installed by the customer to IPL's requirements. The customer shall maintain the temporary service throughout its life. IPL will inspect and make the connections to IPL Facilities. Customer shall pay a fee based on the temporary service required .

**B.** Where the existing IPL system is not available or of sufficient capacity, the Customer shall pay IPL, in advance of construction, an amount equal to the estimated cost of installation and removal of Facilities required to provide temporary service power.

**C.** Connections shall not be made until inspected and approved by IPL's inspector.

**SEC. 2.7 EQUIPMENT UTILIZATION**

**A.** In order to assure uniform customer service, it is important that the requirements for the customer's electrical equipment identified herein be followed by the customer. These requirements can be met by commercially available equipment. The customer shall use the electric service supplied by IPL with due regard to the effect of such service on other IPL customers and IPL's Electrical Distribution System. IPL may refuse to supply electric service or may suspend electric service to a customer without notice if the customer's installation is considered to be unsafe, dangerous, or is installed and operated as to disturb the electric service supplied by IPL to other customers. Equipment with excessive starting currents, or has intermittent or rapidly fluctuating load characteristics, shall not be connected to IPL's lines without prior arrangement with IPL. If the customer's use of such equipment requires the installation of separate or additional transformer capacity, IPL may, upon request from the customer, furnish and maintain such separate or additional transformer capacity. The customer shall pay to IPL, in addition to the bill for electric service under the applicable rate schedule, all costs for these changes.

- B. IPL must be notified at least three (3) business days prior to the customer installing any single-phase motors larger than 7½ horsepower, heating or cooking appliances greater than 10 kilowatts, or any special or unusual equipment so that IPL can confirm if existing power lines and equipment are adequate to handle the increased load.
- C. Electric service is subject to occasional rapid voltage variations which may adversely affect the operations of sensitive controls on a customer's electrical equipment. Devices are available for use with most electric equipment that will minimize the effect of such disturbances. Upon request, IPL will suggest appropriate devices for specific application and will advise on their correct adjustment and setting. IPL will not assume liability for damage to the customer's equipment nor to disturbances in any customer processes arising from such variations.
- D. Computer installations may require special consideration and protection by the Customer. Upon request, IPL will assist the customer with the planning of such special service protections.
- E. Should a customer install lightning arrestors, the installation must be downstream of any IPL owned equipment.
- F. Should a customer request a transformer and service sized in excess of its expected load, customer shall pay the difference between the IPL recommended transformer and service size and the customer requested size.

## **SEC. 2.8 MOTORS**

### **A. Single-Phase, 120/240 Volts**

1. Should the starting inrush current for single or multiple motors have a negative effect to the IPL electrical system, IPL shall require an acceptable method to reduce the impact.

### **B. Three-Phase**

1. The permissible starting inrush current for three-phase, 60 hertz motors operated from a 480-volt supply is limited by the effect on other motors and on the Distribution Systems of the customer and IPL. The customer must notify IPL of the maximum size and type of motor to be served, as well as the aggregate of all motor loads, so IPL can assure that proper service to all customers on the affected segment of its Distribution System will be maintained.
2. The permissible starting inrush current for three-phase, 60 hertz motors operated from a 120/208 volt, four-wire supply is limited by the effect on lighting and other equipment connected at 120 volts and on the Distribution Systems of the customer and IPL. The customer must notify IPL of the maximum size and type of motor to be served, the aggregate of all motor loads and the type of lighting and other

equipment to be served at 120 volts so IPL can assure that proper service to all customers on the affected segment of its Distribution System will be maintained.

3. In both above cases, a limitation on the motor inrush current may be necessary which can be accomplished by using proper motor starting devices.

### **C. Motor Protection**

1. IPL uses single-pole switches and single-phase fuses in its Distribution System. Accordingly, the customer is expected to protect all of its three-phase motors and equipment from a single-phase operating condition. In addition, suitable protection must be provided by the customer for all motors and related equipment in accordance with the latest adopted and accepted edition of the NEC in order to protect the motor and equipment from improper or dangerous operation due to motor overloads or the failure to start.
  - a. All motors shall be protected against overload by the installation of adequate over-current, thermal protective devices in all phases.
  - b. Three-phase motors that operate apparatus that may be subjected to damage due to a reversal of rotation shall be adequately protected.
2. IPL shall not be held responsible for any damage to customer's equipment due to failure to use, improper use, or malfunction of protective devices.

## **SEC 2.9 OTHER EQUIPMENT**

### **A. Welding**

The customer must notify IPL prior to installation of any welding equipment. The customer will also need to provide information on all the characteristics of the welder, what it will be used for and the timing of welding operations so that IPL can assure availability of proper voltage at the welder and to minimize objectionable voltage fluctuations to other customers.

### **B. Heating**

Special one- or two-meter electric heating rates are available to all customers who use electric comfort heating equipment (including add-on heat pumps) where the space heating equipment is permanently installed, thermostatically controlled and of a size and design sufficient to heat an entire building. IPL specialists are available to consult with customers regarding the economics and metering of space heating systems. For these rates to become effective, IPL must be notified by the customer. Special rates are subject to future change or discontinuance.

**C. Special or Unusual Equipment**

Power factor corrective equipment, flashing signs, high frequency equipment, spark discharge devices, radio transmitters, x-ray machines, experimental devices, or any other equipment which could cause abnormal voltage fluctuations shall be designed and operated so as not to adversely disturb IPL's electrical system. Customers must inform IPL of the characteristics of any such equipment prior to placing it in service. If a customer uses its building wiring as a carrier system for communication or signaling purposes, the customer shall install suitable electrical filtering equipment to keep IPL's Facilities free from carrier frequency currents.

**SEC. 2.10 COGENERATION**

- A. Any customer contemplating the operation of generating equipment in parallel with IPL Facilities shall contact IPL for information regarding terms, conditions and requirements for interconnection with IPL Facilities.
- B. The customer shall submit to IPL detailed plans, specifications, equipment description and other details pertinent to the proposed installation as may be required by IPL. These plans, specifications, etc., must be approved by IPL, in writing, before parallel operation will be allowed.

**RESIDENTIAL**

**ARTICLE 3. RESIDENTIAL**

**SEC. 3.1 AVAILABLE RESIDENTIAL ELECTRIC SERVICE (including mobile homes and two-unit dwellings and smaller)**

Single-phase, 60 hertz, 120/240 volts, three-wire.

**SEC. 3.2 GENERAL PROVISIONS**

- A.** In areas that predominantly consist of overhead distribution lines, customers can choose to have either an overhead or underground service. In areas that predominantly consist of underground lines, all services shall be placed underground.
- B.** All unrestorable underground direct buried services shall be upgraded by the customer to electric service policy codes and specifications.
- C.** All services requiring upgrade due to damage caused by storms are recommended to be placed underground. However, the customer may still maintain on overhead service, but is entirely responsible for future replacements should the overhead service be damaged again. IPL, at its discretion, may require customer to place service underground especially with a history of excessive repairs to said service or possibility for damage due to vegetation issues. Customer is also responsible for all damage done to IPL facilities as a result of the customer's overhead service.
  - 1. Should the customer choose to place its service underground; the service shall be converted within sixty days of damage.
    - a. IPL may, at its sole discretion, extend the time for conversion if the number of services damaged in a single event warrants extension.
    - b. Failure to restore a damaged service within specified times or signing agreements for IPL conversion programs may result in discontinuing of electrical service.
- D.** Homeowners, architects, engineers, contractors, builders, etc., are requested to consult in advance with IPL to obtain any special specifications and directives for the proposed service entrance. This may avoid delay and expense if carefully observed and followed.
- E. Single Lot and Subdivision Development**
  - 1. Development of a single residential lot in areas that predominantly consists of overhead distribution lines, customers can choose to have either an overhead



or underground service. In areas that predominantly consist of underground lines, all services shall be placed underground.

2. Development of a multiple lot subdivision requires the installation of an underground distribution and lighting system. The customer of such an area shall contact IPL prior to or during the planning/design phase.
  3. Upon receipt of a proposed area, tract development plan or by request of the customer, IPL will specify the type of electric service available and location of proposed and existing Distribution System for use in the development. The customer is required to construct a conduit system for the proposed residential area development in accordance with the following:
    - a. Complete all work in accordance with IPL's Electric Service Policy, construction standards and electrical codes.
    - b. The customer shall provide and install all conduits for IPL's primary, secondary, lighting, and service conductors. IPL will provide all transformer pads and service pedestals (IPL will own and maintain all primary, secondary and lighting conduits after they have been properly installed).
      1. Conduits may be required beyond the customer's property. Such conduits and distance shall be determined by IPL. These conduits will be installed by the customer and shall be placed in an easement as required provided at no cost to IPL.
    - c. IPL will install, own and maintain transformers and all conductors (primary, secondary and service) required to serve the customer, and will terminate its service conductors at the metering position. The metering socket must be installed by the customer at the location designated by IPL.
    - d. The customer shall provide and/or describe at no cost to IPL, all rights-of-way and easements required for IPL's primary and secondary facilities including, but not limited to poles, guys, conductors, pad-mounted transformers, secondary pedestals and any other Facilities that may be required to serve the customer. The grading must be within 6 inches of final grade, with lots pinned or staked and the easement cleared of all trees, stumps and obstructions before IPL begins construction. Excessive spoils (rock, tree, stumps, etc.) resulting from the installation of IPL's Distribution System will be the responsibility of the customer to remove. Access for IPL vehicles shall be provided to all IPL Facilities prior to sodding, landscaping and fencing.
    - e. Take adequate precaution to assure that underground conductors, transformers and other equipment will not be damaged or disturbed in the
-

course of other construction operations, and if damage should occur, to reimburse IPL for the cost of necessary replacement or repairs.

- f. Pay amounts specified (if required) to IPL before construction of its proposed Distribution System.
- g. Provide adequate drainage and landscaping to assure that IPL's Distribution System shall not be exposed due to erosion or excavation during developmental stages and if exposure should occur, to reimburse IPL for the cost of necessary replacement, repairs, or preventative measures.

#### **F. Conduit Installation**

1. Conduits shall be installed according to the design provided by IPL. Revisions or field changes are not allowed unless prior, documented approval is given by IPL.
2. Such conduit shall be installed within dedicated utility easements.
3. All PVC conduit joints shall be glued together with PVC cement. Bands, clamps or other connecting devices are not allowed. Polyethylene conduit joints must be made with fittings designed for use with polyethylene.
4. Conduit should be installed when grade is within 6 inches of final grade.
5. All conduit runs shall be continuous rigid electrical plastic (gray PVC Schedule 40) without sharp bends or indentations. Conduits at transformers and pedestal locations shall turn up above grade. All primary conduit bends shall be fiberglass and have a minimum 36-inch radii and secondary conduit bends shall be fiberglass and have a minimum 24-inch radii. Primary conduit shall be buried a minimum of 36 inches from top of grade and secondary conduit shall be buried a minimum of 24 inches from top of grade.
6. The customer shall contact IPL for an open trench inspection. The trench shall not be backfilled until the conduit installation has been approved by IPL in writing. The customer is to provide and install all conduit risers for the service line, meter sockets and any other conduits necessary to complete the service line in accordance with IPL standards. Open ends of conduit are to be capped or sealed. All conduit installed by the customer shall have heavy duty flat nylon cord (e.g., mule tape) with a strength rating of no less than 1800 lbs. inside for IPL to install its cable pulling rope. The customer shall backfill the trench after installation of the conduit to within 36 inches of a pole or proposed equipment. The customer shall promptly complete the backfilling after conductors are installed.

7. All conduit shall be of proper size as noted on IPL construction drawing.
8. Backfill shall be clean and adequately tamped to prevent future settling.
9. Conduit that is improperly installed shall be corrected by the customer. This includes out of easement, improper depth, street crossings relative to lot lines, etc.
10. If changes to the conduit system are required due to a re-platting or other changes in development, it shall be the customer's responsibility to make these changes prior to IPL installing any cable or equipment.
11. Additional staking may be required by IPL in order to insure proper installation of conduit and placement of IPL equipment, such as transformers and pedestals.
12. Any relocation of IPL Facilities after they have been installed shall be at the customer's expense.
13. **TRENCHING SHALL NOT BE PERFORMED WITHIN THREE (3) FEET OF EXISTING IPL FACILITIES.**

### **SEC. 3.3 OVERHEAD SERVICE**

For self-contained metering, the customer shall furnish, maintain, and install an IPL approved meter socket, all conduits and all conductors from their service entrance and equipment to the meter socket; a conduit riser (2" min.), weather head; point of attachment; and service conductors to attach to the service drop. IPL will furnish and install the service drop. The customer's service conductors shall run from the meter socket through the service conduit riser with at least 24 inches of conductor extending from the weather head to provide for connection to the service drop with the appropriate drip loop.

### **SEC. 3.4 UNDERGROUND SERVICE**

#### **A. Single Family Thru Two Unit Dwellings**

1. The customer shall provide, install, and maintain a continuous service conduit from the designated IPL facility to the point of service and shall provide and install approved conduit risers in accordance with the latest adopted and approved NEC and NESC .
2. IPL will install, own, and maintain transformers and all conductors (primary, secondary and service) required to serve the customer and will make the termination of the service conductors in the meter socket, the Service Pedestal, or transformer.

3. The customer shall provide, install and maintain a continuous service conduit from the designated IPL facility to the point of service and will provide and install conduit riser to complete the entrance in accordance with IPL's Electric Service Standards, Article 6.
4. IPL shall provide, install, and maintain service conductors.
5. Customer to furnish and install an IPL-approved meter socket(s) up to two positions.
6. See Sec. 3.5 Metering par B4. For Installations Exceeding Two Positions.

**B. Mobile Home Service**

1. The customer shall furnish and install an IPL-approved prefabricated mounting pedestal for the meter and main disconnect with protective device and install a ground and grounding electrode. The customer shall install a continuous, rigid electrical conduit (gray PVC Schedule 40) without sharp bends or indentations from the meter socket or pedestal to a designated IPL facility. The customer shall install, own, and maintain all equipment on the load side of the meter. It is recommended that 200 amperes capacity be provided for each unit due to the frequent use of electric heating in mobile homes.
2. IPL will install all primary and secondary distribution and will furnish and install the service lateral conductors to each meter pedestal, make the meter socket connections and install the meter. In all cases IPL will own and maintain all primary and secondary Facilities and its service conductors to the meter, but will not take title to, own, or maintain any customer wiring beyond the meter.

**C. Transient Mobile Home Development**

1. A transient mobile home development is one without one or more of the requisites for a permanent mobile home development.
2. IPL may, at its option, serve individual mobile homes in a transient mobile home development in the same manner as those in a permanent mobile home development. In that case those standards and policies appropriate to a permanent mobile home apply.

**SEC. 3.5 METERING**

- A. The customer shall install an IPL approved meter socket in all cases. Exceptions shall be approved by IPL prior to installation. Service shall be denied if

an unapproved meter socket is installed.

**B.** The following govern the location of meters:

1. Meters shall be installed at locations approved of by IPL. IPL's inspector will approve and mark a location for each new or relocated meter.
2. Meters shall be installed outside where it will not be subjected to vibration, jarring, gasses, dust, fluids, etc., that may affect the accuracy of the meter.
3. Meters for single-family houses shall be installed on the side of the house at a point no farther than the second closest wall offset towards the street as measured from the side lot line.
4. In multiple-occupancy buildings (three meters and more), each of the premises and common facilities shall be individually metered. All meters shall be grouped at the same location and properly marked with the corresponding service switch. The building owner or its agent shall purchase and install a prefabricated, locking, ring type multiple-metering gang unit and entrance equipment. The type and size of the equipment shall be approved in advance by IPL. The building owner or their agent shall own and maintain the meter sockets, and enclosures. The building owner or their agent shall maintain a supply of spare parts consisting of a minimum of one pair of meter blocks or four terminal clips for each twelve meters or fraction thereof of reach size socket in each building. These are to be kept in a marked enclosure at each metering location in each building.
5. Meters shall not be installed above platforms that are inaccessible by stairs. A ladder is unacceptable in place of stairs. When meters are located above platforms, the space in front of the meter shall be at least 36 inches wide and protected by appropriate railings.
6. When meters are to be in a passageway or narrow space, the clear space in front of the meter shall not be less than 36 inches.
7. For ease of reading meters, the height of the center of the meter, where no walk or driveway exists, shall be not less than 42 inches nor more than 72 inches. When a meter is installed near a driveway or walk, the height shall be 78 inches above the final elevation beneath the meter.
8. A two-by-six wood plank shall be nailed between studs at the meter location to provide a strong structural support into which meter socket mounting screws will be installed.

**SEC. 3.6 SERVICE ALTERATIONS**

- A.** It is IPL's intent to utilize as much of its existing Facilities as practical. IPL will charge the customer for service alterations required solely for the customer's convenience, i.e., relocating existing facilities to clear decks, room additions, swimming pools, etc. In some situations, the customer may be required to update or relocate its service.
- B.** A customer should consult with IPL when relocating an existing service to determine the appropriate charges.

**COMMERCIAL  
AND  
INDUSTRIAL**

**ARTICLE 4. COMMERCIAL AND INDUSTRIAL**

**SEC. 4.1 AVAILABLE ELECTRIC SERVICE FOR COMMERCIAL AND INDUSTRIAL (including five-unit dwellings and larger)**

Single-phase, 60 hertz, 120/240 volts, three-wire.

Three-phase, 60 hertz, 120/208 volts four-wire.

Three-phase, 60 hertz, 277/480 volts, four-wire.

IPL's primary service at three-phase, 60 hertz is 7620/13200Y volts four-wire.

An existing customer who alters their service entrance to supply additional load must install equipment in compliance with the voltages above.

**SEC. 4.2 GENERAL PROVISIONS**

**A.** All new commercial and industrial services, customer-initiated upgrades, relocations, or modifications shall be placed underground.

**B.** Architects, engineers, contractors, builders, etc., are requested to consult with IPL in advance of developing plans/designs to obtain any special specifications and directions for the proposed service entrance. This may avoid delay and expense if carefully observed and followed.

**C.** In apartments and other buildings with multi position gang meter sockets installed, each meter enclosure is to be clearly marked by the building owner, the customer or their agent with a permanent identification engraved or stamped plate of the apartment or space which it serves. General services and electric heat services must be similarly distinguished. The identification shall be permanently inscribed on the inside back of each meter enclosure near the meter socket clips. It is the responsibility of the building owner, the customer or their agent to see that wiring in such locations is connected to the proper meter or meters. IPL will not render service until all meters are properly marked.

**D. Area Development**

1. Development of a commercial or industrial area will likely necessitate the installation of an underground distribution system for the entire area. The customer of such an area should contact IPL prior to design of such a development.

a. The customer is responsible for the cost and installation of all conduit, vaults and equipment pads as may be required.



2. Upon receipt of plans for a proposed development or by request of the customer, IPL will specify the type of electric service available and location of proposed and existing Distribution System for use in the development. The customer is required to construct the proposed commercial area development in accordance with the following:
  - a. Provide IPL with complete "load data" before IPL agrees to type and characteristics of the proposed service.
  - b. Complete all work in accordance with IPL's Electric Service Policy, construction standards and electrical codes.
  - c. The customer shall provide and install all conduits for all primary, secondary, lighting, and service conductors. The customer shall provide and install all transformer pads and service pedestals (IPL will own and maintain primary, secondary and lighting conduits after they have been properly installed).
    - 1) Conduits may be required beyond the customer's property. Such conduits and distance shall be determined by IPL.
  - d. IPL will install, own, and maintain transformers and all primary secondary, and lighting conductors required to serve the customer, and will terminate its conductors. The metering socket must be installed by the customer at the location designated by IPL.
  - e. The customer shall provide and/or describe at no cost to IPL, all rights-of-way and easements required for IPL's primary and secondary facilities including, but not limited to poles, guys, conductors, pad-mounted transformers, secondary pedestals and any other Facilities that may be required to serve the customer. The grading must be within 6 inches of final grade, with lots pinned or staked and the easement cleared of all trees, stumps and obstructions before IPL begins construction. Excessive spoils (rock, tree, stumps, etc.) resulting from the installation of IPL's Distribution System will be the responsibility of the customer to remove. Access for IPL vehicles shall be provided to all IPL Facilities prior to sodding, landscaping, and fencing.
  - f. Take adequate precaution to assure that underground conductors, transformers and other equipment will not be damaged or disturbed in the course of other construction operations, and if damage should occur, to reimburse IPL for the cost of necessary replacement or repairs.
  - g. Pay amounts specified (if required) to IPL before construction of its proposed Distribution System.

- h. Provide adequate drainage and landscaping to assure that IPL's Distribution System shall not be exposed due to erosion or excavation during developmental stages and if exposure should occur, to reimburse IPL for the cost of necessary replacement, repairs, or preventative measures.

### 3. Conduit Installation

- a. Conduits installed by the customer for IPL use shall be installed according to the design provided by IPL. Revisions or field changes are not allowed unless prior written approval is provided by IPL.
- b. Such conduit shall be installed within dedicated utility easements.
- c. All PVC conduit joints shall be glued together with PVC cement. Bands, clamps or other connecting devices are not allowed. Polyethylene conduit joints must be made with fittings designed for use with polyethylene.
- d. Conduit should be installed when grade is within 6 inches of final grade
- e. All conduit runs shall be continuous rigid electrical plastic (gray PVC Schedule 40) without sharp bends or indentations. Conduits at transformers and pedestal locations shall turn up above grade. All primary conduit bends shall be fiberglass and have a minimum 36-inch radii and secondary conduit bends shall be fiberglass and have a minimum 24-inch radii. Primary conduit shall be buried a minimum of 36 inches from top of grade and secondary conduit shall be buried a minimum of 30 inches from top of grade.
- f. The customer shall contact IPL for an open trench inspection. The trench shall not be backfilled until the conduit installation has been approved by IPL in writing. The customer is to provide and install all equipment and materials including building risers, meter sockets, and any other conduits necessary to complete the building entrance in accordance with IPL standards. All conduit installed by the customer shall have heavy duty flat nylon cord (e.g., mule tape) with a strength rating of no less than 1800 lbs. inside for IPL to install its cable pulling rope. The customer shall backfill the trench after inspection of the conduit to within 36 inches of a pole or proposed equipment.
- g. All open ends of conduit shall be capped.
- h. All conduits shall be of proper size as noted on IPL construction drawing.
- i. Backfill shall be clean and adequately tamped to prevent future settling.

- j. All conduits entering vaults shall be terminated, grouted, and provided with conduit end bells flush with the vault interior wall.
  - k. **Trenching by the customer shall not be performed within three (3) feet of existing IPL facilities.**
4. IPL will supply new buildings with underground secondary systems. In these cases, IPL will furnish service at a point to be specified by IPL depending upon several factors including the customer's electrical load requirements. The customer may be required to furnish and install empty conduit to ensure the future reliability of underground service in the area via looped feed. Appropriate switches and protective devices are to be furnished by the customer at the entrance to the building. The customer shall consult with IPL regarding space requirements for its distribution and metering equipment prior to actual design and layout.

### **SEC. 4.3 METERING**

- A. The customer shall furnish and install an IPL approved meter socket enclosure at a location marked and approved by IPL's service inspector. Service shall be denied if an unapproved meter socket enclosure is installed. Customer is also required to furnish and install any IPL approved Current Transformer (CT) rated meter socket enclosures should it be required.
- B. Services requiring CT metering requires installation of a ½ inch by 8-foot copper or copper clad steel ground rod as near as possible to the location of the meter socket enclosure. The upper end of the rod shall be flush with or slightly below grade. The meter socket enclosure shall be grounded to the rod using a solid bare copper wire at least #6 AWG. The use of combination meter socket enclosures will not be acceptable for any class of commercial or industrial service.
- C. The customer may purchase and install a prefabricated U.L. rated device that includes the meter socket. The customer shall obtain approval from IPL of the installation prior to purchase of any equipment. In these cases, the customer will own and maintain the meter socket and enclosure. IPL will own and maintain the meter.
- D. In multiple-occupancy buildings, each of the premises and common Facilities shall be individually metered with a means to disconnect for each service. All meters shall be grouped at the same location and properly marked with the corresponding service switch with an engraved or stamped plate. When the building owner or its agent purchases and installs a prefabricated, locking ring type multiple-metering gang unit and entrance equipment. The type and size of the equipment shall be approved in advance by IPL. The building owner or their agent shall own and maintain the meter sockets and enclosures. The building owner or their agent shall maintain a supply of spare parts consisting of a minimum of one

pair of meter blocks or four terminal clips for each twelve meters or fraction thereof for each size socket in each building. These are to be kept in a marked enclosure at each metering location in each building.

**E.** Metering CTs may be furnished by IPL for installation by the customer in the customer's metering enclosure or as an integral part of:

1. Bus or bus extensions
2. Switchgear
3. Metering enclosure

Such CTs shall be installed with the polarity identification mark toward IPL source and shall be separate from other metering or control circuits.

If CTs are supplied by customer, then customer shall maintain any spare CTs required for ongoing maintenance and/or replacement.

**F.** Metering CTs may be installed in IPL's pad-mounted transformers at IPL's discretion. Meters for such installations shall be mounted to the customer's building. As a general rule, CTs cannot be installed in transformers that serve or have a high probability of serving multiple customers. These installations shall require the customer to install metering enclosures.

**G.** The size of the metering enclosure required will vary with the size of the entrance conductors and their routing through the enclosure.

1. **Table 2** lists suggested minimum size enclosures. Larger enclosures may be required. The customer shall furnish the enclosure.

<b>Entrance Size (Amperes)</b>	<b>Inside Size C.T. Enclosure</b>
800 for less	30" x 36" x 10"
Greater than 800	36" X 48" x 12"

**Table 2**

2. **C.T. enclosures shall be readily accessible from ground level or floor level to IPL personnel only and shall be a separate, hinged compartment with hasp for IPL lock. Enclosures shall not be used as splice boxes or raceways.**

**H.** The customer shall furnish and install a 1-inch diameter conduit with sufficient pull boxes from the metering CT location to the meter socket. This conduit shall not exceed 65 feet in length without prior approval from IPL.

**I. Meter Location**

1. Meters shall be located outside where they will not be subjected to vibration, jarring, gasses, dust, fluids, etc., that may affect the accuracy of the meter.
2. Meters shall not be located above platforms that are not accessible by stairs. Ladders are not an acceptable substitute for stairs. When meters are located above platforms, the space in front of the meter shall be at least 36 inches wide and protected by suitable railings.
3. When meters are in a passageway or narrow space, the clear space in front of the meter shall not be less than 36 inches.
4. For ease of reading meters, the center of the meter where no walk or driveway exists shall not be less than 42 inches nor more than 60 inches, and where a driveway or walk exists, shall be 78 inches above the final elevation.

**SEC. 4.4 OVERHEAD SERVICE****A. Single Occupant Building – up to 200 Ampere**

The customer shall install an IPL approved meter socket enclosure, all conduits, all conductors from the service entrance, equipment to the meter socket enclosure, a conduit riser (2" min), weatherhead and service conductors to attach to IPL's service drop. IPL will furnish and install the service drop. The customer's service conductors shall run from the meter socket enclosure through the service conduit riser with at least 24 inches of conductor extending from the weatherhead to provide for connection to the service drop with an adequate drip loop. IPL will make the connections to the customer's service conductors and install the meter. The service conduit mast or service attachment shall be of a strength that is adequate for the span tension and of sufficient height to provide proper clearances for IPL's service drop.

**B. Single Occupant Building - 400 Ampere or limited to 300 kVA**

The customer shall furnish and install a service conduit riser with a weatherhead and the service entrance conductors from the service entrance equipment. The service conduit riser or service hook shall be of a strength adequate for the span tension and of sufficient height to provide proper clearances for IPL's service drop.

**C. Multi-Occupant Buildings**

The customer shall furnish and install an IPL approved meter socket enclosure, conduit and conductors from their service entrance and equipment to the meter socket enclosure, a conduit riser (2" min.), weatherhead and service conductors.

IPL will furnish and install the service drop to the building. The service conduit riser or service attachment shall be adequate for the span tension and of sufficient height to provide proper clearances for IPL's service drop. The customer's service conductors shall run from the meter socket enclosure through the service conduit riser with at least 24 inches of conductor extending from the weatherhead to provide for connection to the service bus with an adequate drip loop. IPL will make the connections of the customer's service conductors to the service bus and install the meter.

- D.** The customer's service conductors shall extend at least 24 inches beyond the weatherhead to provide make-up length for IPL to install connections to its service drop. IPL will furnish and install its meter and metering cable. IPL will furnish metering CT's and the meter socket enclosure for the customer to install. The customer shall furnish and install the metering socket enclosure and conduit for the metering circuits. If circumstances prevent installation in this manner, the customer shall contact IPL for alternate methods.

#### **SEC. 4.5 UNDERGROUND SERVICE**

- A.** IPL requires service lateral conductors installed by the customer to be in conduit.
- B.** The customer shall provide and install all primary, secondary and service conduits on the customer's property which is required by IPL prior to the installation of its Facilities. The customer shall also provide and install the vaults and equipment pads within the easements or rights-of-way designated for use by IPL and in accordance with standard IPL specifications.
- C.** The size and number of service entrance conductors shall conform to the requirements of the latest COI adopted and accepted NEC. The number and sizes of allowed service conductors is also dependent on the available space available on the pad mounted transformer secondary terminals.
- D.** The maximum allowed size of service conductors is 1000 MCM unless approved by IPL.
- E.** Service entrances above 3000 Amperes shall be coordinated through IPL Engineering and approved before construction. A single main entrance panel rated above 3000 amperes may require primary metering.
- F.** Commercial, Industrial and Multi-Family Dwellings (Three units and larger – customer supplied meter socket)
1. The customer shall extend underground service lateral conductors to the low voltage compartment of IPL's pad-mounted transformer or designated equipment.

2. The transformer location shall be designated by IPL, near a paved area and accessible by vehicle for maintenance.
3. IPL will own and install all primary conductors and equipment and will make all terminations in the transformer.
4. If IPL's system is not on the customer's property or at the customer's property line, the customer shall extend the conduit and underground service lateral conductors to the property line, or a point designated by IPL.
5. IPL will not take title to own or maintain any of the customer's service lateral conductors or service Facilities that are located on the customer's property.
6. Since metering methods vary considerably, the customer shall contact IPL prior to construction and coordinate the details of meter location and equipment requirements.

**SEC. 4.6 PRIMARY SERVICE – (for commercial and/or industrial service sizes in excess of 3000 amps)**

- A. Due to the variety of methods by which a customer can take primary service, it is difficult to generalize as to specific requirements. IPL representatives will work closely with the customer's architect and engineer to develop a mutually acceptable and economical design within the framework of IPL's rate schedules.
- B. In general, however, the customer shall provide, install and maintain all necessary lines, switches, transformers, secondary distribution systems and protective equipment on their premises. Primary protective equipment shall be approved by IPL to ensure coordination with its Distribution System.
- C. The customer shall provide space and Facilities for IPL to terminate its primary lines. Each primary service customer shall be required to install a main disconnect switch and protective device at their property line.
- D. Metering applications vary for primary service. Each situation shall be coordinated during design stages with IPL's representative.
- E. The customer shall supply IPL two copies of their substation drawings and equipment specifications before plans are finalized and before equipment is ordered.
- F. At the time of construction, the customer-owned substation shall comply with all current editions of IPL's standards or specifications. Copies of these specifications are available from IPL.

**TRAFFIC SIGNAL,  
STREET LIGHTING,  
AND  
SPECIAL EVENT SERVICE**



**ARTICLE 5. TRAFFIC SIGNAL,  
STREET LIGHTING AND SPECIAL EVENT SERVICE**

**SEC. 5.1 TRAFFIC SIGNAL SERVICE**

- A. Applications for electric service to City/State-owned traffic signal and streetlight metering points shall be made by the City/State to the appropriate IPL representative. Upon receipt of the City/State's request, IPL will determine the point of service, specify the type of service available at that location and approve the location of the City/State's entrance switch.
- B. The City/State shall install an IPL approved meter socket enclosure and shall provide and install, on public right-of-way, a continuous electrical conduit (gray PVC Schedule 40) without sharp bends or indentations and conductors, from the meter location to the service source or to a point designated by IPL.
- C. The City/State shall be responsible for the costs of any service alterations.

**SEC. 5.2 STREET LIGHTING SERVICE**

- A. Street Lighting Systems shall be installed, operated, and maintained by IPL in a manner consistent with the standards and procedures of the City Unified Development Ordinance and the general guidelines of the Illuminating Engineering Society of North America.
- B. IPL will assist the City in reviewing requests for placement of streetlight luminaires upon written request of the property owner(s) in a subdivision, or portion thereof, where streetlights do not exist or appear to be inadequate.

**SEC. 5.3 SPECIAL EVENT SERVICE**

- A. Normally service will be provided as a temporary service in accordance with Sec. 2.6.
- B. IPL may provide electric outlets in some locations for special events. Use of these outlets shall be coordinated and authorized by IPL.
- C. All costs for special event electric service shall be recovered by metering, a specific use rate or contribution by the customer.

# **MISCELLANEOUS SERVICES**

**ARTICLE 6. MISCELLANEOUS SERVICES**

**SEC. 6.1 LINE COVER - UP**

- A.** Customers can request an overhead line be covered. The requesting customer is responsible for all costs associated with placing the cover-up on the overhead line including but not limited to labor to install and remove, the cover-up (if needed due to being installed past recommended environment exposure levels), and other items needed to facilitate the installation.
- B.** Customer is aware that the cover-up is not meant to safeguard anyone for possible electrocution. The cover-up is only a visual reminder of the presence of an energized overhead line and the customer acknowledges that the cover-up possesses no real insulative properties.



MaterialUId	Description	Part Number	Unit Cost	Unit of Measure	2021 Usage	Total Unit Cost
51-100-00	METER SOCKET TEMPORARY 100 AMP 4 TERM	5110000	\$ 171.00	EA	9	\$ 1,539.00
51-100-01	METER SOCKET 100 AMP 4 TERM RINGLESS WITH1 1/4" HUB	5110001	\$ 25.80	EA	2	\$ 51.59
51-100-02	METER SOCKET 100 AMP 4 TERM 2 POSITION RINGLESS W/2" HUB	5110002	\$ 130.60	EA	10	\$ 1,306.03
51-100-03	METER SOCKET 20 AMP 6 TERM RINGLESS WITH 1" HUB & TEST	5110003	\$ 114.57	EA	0	\$ -
51-100-04	METER SOCKET 20 AMP 8 TERM RINGLESS WITH 1" HUB & TEST	5110004	\$ 202.13	EA	0	\$ -
51-100-05	METER SOCKET 20 AMP 13 TERM. RINGLESS WITH 1" HUB & TEST	5110005	\$ 152.32	EA	3	\$ 456.96
51-200-00	METER SOCKET 200 AMP 4 TERM 2 POSITION RINGLESS W 2" HUB	5120000	\$ 248.48	EA	1	\$ 248.48
51-200-01	METER SOCKET 200 AMP 4 TERM W/ 2" HUB RINGLESS	5120001	\$ 62.77	EA	326	\$ 20,463.02
51-200-03	METER SOCKET 200 AMP 7 TERM WITH 2" HUB RINGLESS	5120003	\$ 150.26	EA	2	\$ 300.52
51-200-04	METER SOCKET 200AMP 600VAC 1 PHASE 3 WIRE 3 KNOCKOUTS	5120004	\$ 48.15	EA	8	\$ 385.20
51-320-01	METER SOCKET 320 AMP 4 TERM WITH LEVER BY-PASS	5132001	\$ 341.46	EA	31	\$ 10,585.18

<b>Grand Total</b>	<b>\$ 35,335.97</b>
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