Introduction

This handbook covers basic provisions to assist the customer in acquiring fast and reliable electric service for new and existing construction. It gives general details, in accordance with the NESC (for the utility company to the meter) and NEC (for the electrician past the meter on the load side), in a simple format for easy reference. By release of this manual, we hope to increase the quality and standardization of electric service provided by the City of Pella. Due to the very nature of an effort of this sort and the rapidly changing technologies and ideas in the distribution industry, this manual is probably not finished, probably never should be, and is obsolete even as it goes to press. We value any comments and/or corrections you may have pertaining to this handbook. If you have corrections or comments, please call the City of Pella Distribution Department. These comments and corrections will aid in the revising of this handbook and, in turn, the quality of service we strive to provide to you.

Facilities of the utility shall be constructed, installed, maintained and operated in accordance with accepted good engineering practice in the electric industry to assure, as far as reasonably possible, continuity of service and safety of people and property. The utility shall use and shall require compliance with applicable provisions of the publications listed below as standards of accepted good practice and with applicable provisions of the City Code.

a. Iowa Electrical Safety Code, as defined in 199 IAC, Chapter 25 (476, 476A, 478).
b. National Electrical Code, NFPA No. 70.
c. American Standard Code for Electricity Metering, ANSI C12.
d. USA Standard Requirements for Instrument Transformers, ANSI C57.13.
e. American National Standard Requirements for Electrical Analog Indicating Instruments, ANSI C39.1.
f. American Standard Requirements for Direct-Acting Electrical Recording Instruments (Switchboard and Portable Types), ANSI C39.2.
g. American National Standard Voltage Ratings for Electrical Power Systems and Equipment (60 Hz), ANSI C84.1.
h. Grounding of Industrial and Commercial Power Systems, ANSI C114.1.

References to publications listed above shall be deemed to be to the latest edition or revision accepted by the Utilities Division of the Iowa Department of Commerce as a standard of good practice.

City of Pella, Distribution Department

Phone 641-628-2581

City of Pella
Distribution Department
222 Truman Road
Pella, Iowa 50219

Table of Contents

Drawings

6

6.A.---------PERMANENT SERVICE - SOCKET WIRING

6.B.---------PERMANENT SERVICE - UNDERGROUND

6.C.---------PERMANENT SERVICE - OVERHEAD

6.D.---------PERMANENT SERVICE - METER PEDESTALS

7.A.---------GROUPED METERS 6 OR LESS

7.B.---------GROUPED METERS MORE THAN 6

8.----------CT / PT CABINETS

9.A.---------LOCATION OF PAD-MOUNTED TRANSFORMERS

9.B.---------LOCATION OF PAD-MOUNTED TRANSFORMERS CONT

10.A.-------THREE PHASE TRANSFORMER PAD SPECIFICATIONS

10.B.-------SINGLE PHASE TRANSFORMER PAD

11.----------CERTIFICATION OF COMPLIANCE

12.----------APPLICATION FOR SERVICE

1. DEFINITIONS

Application for Service: The agreement or contract between the Utility and the Customer under which electric service is supplied and taken.

Accessible: Admitting close approach, not guarded by locked doors, elevation, or other effective means.

Connected Load: The combined manufacturer's rated capacity of all motors and other electric energy-consuming devices on the Customer's premises which may, at the will of the Customer, be operated with the electric energy to be supplied from the service of the Utility.

Customer: Any individual, partnership, corporation, or other legal entity now being served or to be served, using the electric service of the Utility at any specified location.

Customer's Service Equipment: The necessary equipment and accessories, located near the point of entrance of supply conductors to a building which constitute the main control and means of disconnecting the supply to that building. This equipment usually consists of a circuit breaker or a switch and fuses.

Disconnection Means: A device or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

Distribution Lines: The Utility's lines located along streets, alleys, highways, or easements on private property, when used or intended for use for general distribution of electric service to Customers.

Dwelling:

Dwelling Unit: One or more rooms for the use of one or more persons as a house-keeping unit with space for eating, living and sleeping, and permanent provisions for cooking and sanitation.

Multi-Family Dwelling: A building consisting of three or more dwelling units.

One-Family Dwelling: A building consisting solely of one dwelling unit.

Two-Family Dwelling: A building consisting solely of two dwelling units.

Meter Set: An instrument, or instruments, together with auxiliary equipment for measuring

electric power and energy supplied to a Customer.

National Electrical Code: The current edition of the National Electrical Code as issued by the National Fire Protection Association. (NFPA No. 70).

National Electric Safety Code: The 1997 edition of the National Electric Safety Code as issued by the American National Standards Institute. (ANSI C2).

Overhead Distribution Areas: The area or areas served by the Utility's overhead distribution system as differentiated from the underground systems..

Point of Delivery: The point where the electric energy first leaves the line or apparatus owned by the Utility and enters the line or apparatus owned by the customer unless specified in the customer's Agreement for Service. This is not necessarily the point of location of the Utility's meter.

Rate Schedule Classification: The classification of the use of electricity into categories considering the amount of power supplied and the purpose of its use.

Secondary Terminal: The secondary side of a pad-mounted transformer, a secondary terminal box at the base of a riser pole, or a secondary junction box.

Service: The conductors and equipment for delivering energy from the Utility's system to the wiring system of the Customer.

Service Drop: The overhead service conductors from the last pole or other aerial support to and including the splices, if any, connecting to the service-entrance conductors at the building or other structure.

Service Entrance Conductors, Overhead System: The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop.

Service Entrance Conductors, Underground System: The service conductors between the terminals of the service equipment and the point of connection to the service lateral.

Service Equipment: The necessary equipment, usually consisting of a circuit breaker or switch and fuse, and their accessories, located near the point of entrance of supply conductors to a building or other structure, or an otherwise defined area, and intended to constitute the main control and means of cutoff of the supply.

Service Lateral: The underground service conductors from the Utility's distribution system, including any risers at a pole or other structure or from transformers, to the first point of

connection with the service-entrance conductors in a terminal box or meter or other enclosures with adequate space, inside or outside the building wall. Where there is no

terminal box, meter, or other enclosure with adequate space, the point of connection shall be considered to be the point of entrance of the service conductors into the building.

Type of Service: The characteristics of electric service described in terms of frequency, nominal system voltage, and number of wires.

Primary Service: Any type of service with a nominal voltage generally greater than 600 volts.

Secondary Service: Any type of service with a nominal voltage generally less than 600 volts.

Underground Residential Distribution (URD) Areas: Those residential subdivisions or other specified areas within which all customers are served by underground distribution lines.

Utility: Any public, city, or city-franchised organization which furnishes a service.

Voltage, Nominal: The value, expressed in volts, which is assigned to a circuit or system for the purpose of conveniently designating its voltage class (as 120/240, 480Y/277, 600, etc.). The actual voltage at which a circuit operates can vary from the nominal within a range that permits satisfactory operation of equipment.

2. GENERAL INFORMATION

2.1 Service Area

The Utility provides electricity to residents of the City of Pella and also to residents outside of the City limits but within the service area boundaries established by the State of Iowa.

2.2 Application for Service

Application for new, additional, or temporary electric service must be made by the customer, or a designated representative, to the Utility, in person. At the time of application, the customer will be required to provide, in writing on the form(s) provided, information relating to the service request, including the following:

A. Exact location of premises to be served, including building street address; lot and block numbers and name of subdivision.

B. The type of service desired (e.g. temporary, permanent, residential subdivision, dwelling unit, commercial, industrial, etc.)

C. The approximate date that electric service is required.

D. The name, address, and telephone number of the Customer's designated representative who will be responsible for working with Utility representatives in providing the electric service (e.g. customer employee, engineer, contractor.)

E. The name, address, and telephone number of the party who will be responsible for paying associated costs and usage charges.

F. Electrical Load Data Statement specifying the type of service required by the Customer and expected magnitudes of connected and peak load. Additional data in the form of construction drawings and the proposed service entrance may also be necessary for the Utility to adequately determine the capacity and arrangement of service to the Customer. The statement must be received by the Utility before a work order for the project can be issued and before the necessary planning and design of the project can begin.

The Utility should be advised of planned installations as early as possible so that details for furnishing service may be arranged and construction completed by the desired date. Blank application forms and additional information may be obtained by contacting the Utility at 222 Truman Road.

2.3 Ownership of Equipment

A. Utility-Owned Equipment

The meter and associated metering equipment furnished or installed by the Utility is the property of the Utility.

1. Overhead Service - In addition to the metering equipment, the overhead service drop installed by the Utility is the property of the Utility.

2. Underground Service - In addition to the metering equipment, all equipment up to and including the designated secondary terminal is the property of the Utility. (The secondary terminal could be the secondary terminal of a pad mounted transformer, or a secondary junction box.) Unless service is taken at primary voltage or otherwise specified by written agreement, all conductors and equipment operating at nominal voltages in excess of 600V are the property of the Utility. For information of ownership of service lateral conductors refer to the appropriate classification of service.

B. Customer - Owned Equipment

The meter socket, instrument transformer compartment (if required,) the service entrance conductors and conduit from the meter socket to the service entrance disconnect, the service entrance switch or circuit breaker and the service entrance ground equipment are the property of the customer.

1. Overhead Service - In addition to the equipment of the Customer side of the meter socket, the service drop wire holder or bracket, the weatherhead and either the service mast and conduit with entrance wires or the service entrance cable with watertight connection to the meter socket are the property of the Customer.

2. Underground Service - In addition to the equipment of the Customer side of the meter, the ditch, and all conduits required to extend the secondary service lateral from the Utility's secondary terminals to the meter socket are the property of the Customer. For information of ownership of service lateral conductors refer to the appropriate classification of service.

The Customer and the Utility are responsible for the installation, maintenance, repair, and replacement of the electric service equipment which each owns.

2.4 Easements

Whenever any Utility-owned underground and/or overhead material and equipment is located on or above the Customer's property, the customer shall grant an easement to the Utility to the extent which the Utility deems necessary. All utility easements requested by the Utility are to be granted by the Customer at no cost to the Utility. (This does not include secondary service drops or service laterals.)

2.5 Customer's Facilities

At a minimum, wiring and electrical equipment of the customer, shall be installed in accordance with the latest edition of the National Electrical Code (NFPA No. 70).

2.6 Service Connection, Disconnection, and Reconnection

After the customer's installation has been completed a meter will be installed by the Utility and the electric service made available provided that all applications, agreements, and deposits have been submitted by the Customer and approved by the Utility.

Customer requests for disconnection or reconnection of existing services must be received by the Utility at least 24 hours in advance of the desired time of disconnection or reconnection (weekends excluded).

2.7 Liability

The Utility does not engage in the practice of doing interior wiring on customer premises except for the installation and maintenance of its own property, and therefore is not responsible for service beyond the point of delivery. The Utility shall not be liable for damage to any customer or to any third party resulting from the use of the service or from the presence of the Utility's appliances or equipment on the customer's premises.

The Customer is solely responsible for any accidents, fires, or failures resulting from the condition and use of his wiring installation or equipment.

2.8 Service Interruptions

The Utility reserves the right to interrupt service at any time. Interruptions for maintenance and system improvements will be prearranged and advance notice will be given to the customer whenever practical.

The Utility will not be responsible for consequential damages resulting from service interruptions or fluctuations outside its control or from operations in response to abnormal system conditions. Customers requiring service reliability and/or stability exceeding the Utility's normal service should

consider uninterruptible power supplies, isolation transformers, power conditioners, redundant services, or other options to provide the level of service needed.

2.9 Unauthorized Use of Electricity

The Utility is a public utility engaged primarily in the business of supplying electric service ultimately to the customers. Electric service is furnished for the use of the customer only, and the customer shall not resell or permit other persons to use it.

Sub metering for resale of electricity is an unauthorized use of electrical service. The customer shall not sub meter any portion of such service in any manner for resell.

2.10 Access

Employees of the Utility shall have the right of access to the customer's premises at all reasonable times for the purpose of installing, reading, inspecting, maintaining, or removing any of its meters, devices, or other equipment which is used in connection with the furnishing of the customer's electric service.

2.11 Customer Responsibility

Failure of the customer to notify the Utility in a timely manner of any planned alteration to electric service facilities or increased electrical load, and failure to comply with the Utility's published rules, regulations, and rate schedules may result in delayed connections, interruption of service, or damage to equipment, for which the Utility disclaims all responsibility.

2.12 Revisions of Requirements

All requirements stated or implied herein are subject to change at any time without prior notice. All revisions can be obtained from the Utility by calling 641-628-2581.

3. RATES, CONNECTION CHARGES, AND CREDIT POLICY

3.1 Rate Schedule Classification

Electric service is supplied to customers under various rate schedule classifications as determined by the type of service, the amount of electric power supplied, and the purpose for which the electric service is to be used. Copies of the Utility's rate schedules are available through the Utility. (222 Truman Road)

3.2 Payment for Service

The Utility will, insofar as possible, read all meters every month and bill the customer for service used during the period. Payment of the bill is due on the date noted on the bill. If the meter cannot be read during a billing period, or the reading seems erroneous, an estimate will be made for that billing period. Any adjustments to the estimate will be made during the following billing period.

3.3 Minimum Bill

There is a minimum monthly bill charged to each customer receiving electric service. The amount of this monthly bill varies as to the type of service which the customer receives. The minimum bill for each type of service is listed in the appropriate rate schedule.

3.4 Service Connections

There will be no charge for new service connections made during the normal working hours of the Utility. If new service connections must be made during other than normal working hours at the request of the customer, a special connection charge will be assessed.

3.5 Service Disconnection/Reconnection

The utility reserves the right to disconnect or deny service in accordance with applicable rules of the Utilities Division of Iowa Department of Commerce.

The Utility may disconnect a customer's service, with notice, for any of the following reasons:

Nonpayment of billings or issuance of non-negotiable check.

Failure to provide access to Utility-owned metering equipment.

Without notice, the Customer's service may be disconnected for:

A condition determined to be hazardous - to the Customer, to other customers or to the Utility.
Unauthorized use of electricity or equipment belonging to the Utility.

In the event service has been disconnected for a valid cause, the Customer will be required to pay a reconnection fee before the service is restored.

A schedule of fees is available from the Utility.

3.6 Charges for Line Extensions

There will be no charge to customers for line extensions to permanent dwellings inside the corporate limits of the city.

When a Customer requesting an extension is not within the city limits, the Utility will extend its services within its authorized service boundaries, in accordance with the requirements for overhead and underground extensions, only when the anticipated revenue from the sale of the additional service which will result from the extension is sufficient to justify the expenditure. When the expenditure is not so justified, the extension will be made only if the Customer pays to the Utility the portion of the capital expenditure not justified by the anticipated annual revenue.

Application for service shall be filed at the utility's business office. At the time of application, the applicant shall be given an opportunity to designate a person or agency to receive a copy of any notice to disconnect service due to the applicant's nonpayment of a bill or deposit. As soon as practicable after the approval of the application, the utility shall supply service to the applicant in accordance with the applicant's appropriate class of service.

3.7 Customer Deposits

A deposit intended to guarantee payment of bills for service may be required prior to approval of the service application. In any case where a deposit has been refunded or is found to be inadequate, a new or additional deposit may be required upon twelve days written notice of the need for such deposit.

A. Credit Criteria for Initial Deposits

The requirements of an initial deposit shall be determined by application of the following criteria.

a. No initial service deposit shall be required of an applicant:

1) who has previously established a credit history with the utility;

2) whose twelve most recent bills from the utility where timely paid (including one automatic forgiveness of the late payment);

3) whose new service is subject to the same rate classification as that for which the payment history was established. Reasonable proof of an equivalent recent payment history for similar service from another utility may be accepted by the utility.

b. An initial service deposit not exceeding the high test monthly billing for service during the previous twelve month period shall be required of an applicant for service who does not meet the credit criteria of subparagraph "a" above.

B. Credit Criteria for New or Additional Deposits

A new or additional deposit may be required of a current customer whose initial deposit has been refunded or is found to be inadequate. The new or additional deposit shall ensure a total deposit equal to the highest monthly billing for service during the previous twelve month period and shall apply to customers who make two late payments in a twelve month period (not including one automatic forgiveness of late payment).

C. Deposit Calculation Criteria

In calculating customer deposits which may be based on the maximum estimated charge for a billing period, the amount shall be determined from the highest meter reading period of the previous year. The maximum level of consumption so determined may be adjusted for reasonably determinate differences in the likely level of energy consumption, including: number or persons served, change in the type of nonresidential service; or, the installation or removal of energy conservation or alternative energy measures. Where the service connection was not previously metered, the maximum estimated charge shall be based on comparable existing service of the utility.

D. Interest on Deposits

Interest at a rate determined by the governing body will be paid on deposits from the date of deposit to the date of refund or the date of any bill to which the deposit is applied. The date of refund is the date on which the refund or notice of refund is forwarded to the customer's last known address.

E. Record of Deposits

The utility shall maintain a record of all deposits. The record of each unclaimed deposit shall be maintained for a period of three years from the date service is terminated. During that period, the

utility shall make a reasonable effort to return the deposit. Unclaimed deposits, together with accrued interest, shall be credited to an appropriate utility account. Deposits remaining unclaimed two years after termination of service will be transferred to the state in accordance with Chapter 556, Code of Iowa.

F. Refund of Deposit

A deposit shall be refunded after twelve consecutive months of prompt payment (which may be eleven timely payments and one automatic forgiveness of late payment). For refund purposes, the account shall be reviewed for prompt payment after twelve months of service following the making of the deposit and for each twelve-month interval terminating on the anniversary of the deposit. Upon termination of service, the deposit plus accumulated interest (if applicable), less any unpaid utility bill of the customer, shall be reimbursed to the customer or other person who made the deposit.

G. Non Refundable Connection or Transfer Fee

Customers are required to physically come into the office and sign a service card, requesting necessary information. At this time we would collect a non-refundable account transfer fee.

3.8 Billing Information

Customers shall be billed on a monthly basis according to the appropriate rate schedule for metered service received during the billing period. In addition, the bill will include charges for applicable fuel and purchased power adjustments as well as special extension and service costs applicable to the billing period.

A. Billing Form

The following information shall be included on the billing form or made available to the customer at the utility's business office:

1. The actual or estimated meter readings at the beginning and end of the billing period.

2. The date of the meter readings.

3. The number and kind of units metered.

4. Reference to the applicable rate schedule.

5. The account balance brought forward and amount of each net charge, and total amount currently due. In the case of prepayment meters, the amount of money collected shall be shown.

6. The last date for timely payment shall be clearly shown and shall be not less than twenty days after the billing is rendered.

7. A distinct marking to identify an estimated bill or meter reading.

8. A distinct marking to identify a minimum bill.

9. Any conversion from meter reading units to billing units or any other calculations to determine billing units from recording or other devices or any other factors such as sliding scale or automatic adjustments used in determining the bill.

B. When Payable (Late Payment Penalty)

A bill shall be due and payable when rendered and shall be considered delinquent after twenty days from the time it is rendered. A bill shall be considered rendered by the utility when deposited in the US mail with postage prepaid or when delivered by the utility to the last known address or the party responsible for payment. Bill payments received by the utility on or after the delinquent date shall be for the gross amount stated on the bill which shall include a late payment penalty of 1.5% per month of the last due amount. Failure to receive a properly rendered bill shall not entitle the customer to relief from penalties for late payment.

Each account shall be granted one complete forgiveness of a late payment penalty in each calendar year. The customer shall be informed of the use of the automatic forgiveness by phone or in person, by posting to the next bill, or by separate mailing.

Each customer who has not paid the utility bill by the day following the due date will receive, by mail, a 13 day disconnect notice. With this notice, they would receive 13 days in which to make payment or set up an agreement to pay (see section F.)

The date of delinquency for all residential customers and for other customers whose consumption is less than three thousand kWh per month, shall be changeable for cause in writing.

C. Partial Payments

When a partial payment is made prior to the delinquent date and without designation as to the service being paid, the payment shall be credited pro rate between the bill for municipal utility services and related taxes.

D. Where Payable

Bills shall be paid by mail, by direct deposit through a financial institution, by deposit in a designated receptacle, or in person at the utility's business office. No post-dated checks will be accepted. If a customer has two returned checks in a 12 month period, cash can be required. If the ACH (direct deposit) payment is returned twice in a 12 month period, the customer will be removed from the ACH program.

E. Level Payment Plan (Budget Billing)

All residential customers or other customers whose consumption is less than three thousand kWh per month may select a level payment plan. The plan shall:

1. be offered when the customer initially requests service.

2. have a date of delinquency changeable for cause in writing; such as, but not limited to, fifteen days from approximate date each month upon which income is received by the person responsible for payment.

3. provide for entry into the level payment plan at any time during the calendar year.

4. have level payments equal to the sum of estimated charges provided by the number of standard billing intervals, all for the next twelve consecutive months.

5. prohibit withdrawal from the plan during the first year after entry, except for termination of service.

6. carry forward any account credit or debit on the anniversary of the plan which shall be added to the estimate charges in determining the level payment amount for the next year. Unpaid level payments shall not be carried forward.

7. have the level payment amount computed at the time of entry into the plan. It may be recomputed on each anniversary, when requested by the customer, or whenever price or consumption, alone or in combination result in a new estimate differing by ten percent or more from that in use. When a customer's payment level is recomputed, the customer shall be notified of the revised payment amount and the reason for the change. The notice shall accompany the bill prior to the bill affected by the revised payment amount.

8. Provide that the account be balanced upon termination of service or withdrawal from the plan.

9. regardless of account balance, provide that a delinquent bill payment shall subject the customer to a late payment penalty on the level payment amount and to other procedures for collection and termination of service.

F. Reasonable Agreement to Pay

A residential customer who has been disconnected or is about to be disconnected due to inability to pay in full may be offered the opportunity to enter into a reasonable agreement to pay in accordance with applicable rules of the Utilities Division of the Iowa Department of Commerce. This reasonable agreement to pay consists of a two-step payment plan. The first plan may be altered once. At that time, the second step, "Final Agreement Plan", would become effective. The customer would be cautioned that no further changes would be made. This would be stated on the "Final Agreement" and would be signed by the customer once again.

3.9 Notice by Customer to Terminate Service

A customer shall give the utility not less than three business days notice prior to final termination of service. Disconnection of service under this section shall be during the regular business hours of the utility.

3.10 Customer Complaints

Customers may be asked to submit complaints in writing, specifying the nature of the complaint and the relief sought. Complaints concerning the charges, practices, facilities or service of the utility shall be investigated promptly and thoroughly. A customer may appeal the findings of the investigation and shall be given reasonable opportunity for a full hearing of the matter before the governing body or hearing officer(s) appointed by the governing body.

Complaints involving policies or actions of the utility that are regulated by the Utilities Division of the Iowa Department of Commerce may also be filed with the agency in accordance with applicable regulations.

4. STANDARD SERVICE

4.1 General Characteristics

This section describes the types of services offered to Customers under the Utility's Standard Rate Schedules. Electric service supplied by the Utility is alternating current having a nominal frequency of 60 Hertz (cycles per second).

4.2 Availability of Service

Although the types of service listed below are generally available throughout the area served by the Utility, service of the type requested by a customer may not be available at the location where such service is desired, and in certain cases may be available only through special contractual arrangements and at the expense of the Customer. Each Customer will generally be allowed only one type of service and one point of connection for each location.

The utility may replace an existing overhead service lateral with underground connectors as part of a project or system upgrade. Upon 90 days written notice to the customer, the customer will install, own, and maintain, the appropriate meter socket, and conduit(s) required by the utility for underground service. The customer will install, own, and maintain service on the load side of the meter.

4.3 Secondary Service Voltages

The following types of secondary service are generally available to Customers served under the Utility's Standard Rate Schedules:

A. Single Phase Service

120/240 Volt, 3-wire, Grounded Neutral. Generally available where the total load is less than 100kVA.

B. Three Phase Service

1. 208Y/120 Volt, 4-Wire, Grounded Neutral. Generally available where the total load is 75kVA or greater for pad-mounted primary service, or 45kVA or less for pole-mounted primary service with an underground secondary in each case.

2. 240/120 Volt, Delta, 4-Wire, Grounded Neutral. Available only where installed capacity exists.

3. 240 Volt (and 480 Volt), Delta, 3-Wire. Available only where installed capacity exists.

4. 480Y/277 Volt, 4-Wire, Grounded Neutral. Generally available where the total load is 75 kVA or greater for a pad-mounted primary service.

4.4 Primary Service Voltage

Generally consists of Three-Phase, 12,470Y/7,200 Volt, 4-Wire Grounded Neutral Service: Available only by special request where the total load is 150kVA or greater.

5. SPECIAL SERVICES

5.1 Temporary Service

Temporary service is intended to be supplied at secondary voltages only to customers for use during the construction of permanent facilities and before the permanent service can be installed.

All overhead and underground temporary services will be metered and billed under one of the Utility's Standard Rate Schedules. The Utility will furnish only the service drop and the metering equipment.

The Customer shall provide an approved meter socket with the necessary raceway and a suitable rigid support for attachment of the metering equipment and service drop or lateral. On all three phase temporary services, where required, the Customer shall also provide a suitable enclosure for installation of the Utility's instrument transformers.

A nominal flat fee will be assessed for pedestal type meter settings or for the first 125' of overhead single phase temporary service of 200 amperes or less installed at the Customer's premises. The location and type of temporary service will be designated by representatives of the Utility. The Customer will be required to pay the Utility for the actual cost to install and remove any additional single phase temporary service of 200 amperes or less, any single phase temporary service larger than 200 amperes, any three phase temporary service, any temporary service located for the convenience of the Customer, and any other special facilities requested by the Customer. Temporary services which require a significant expenditure of money by the Utility will be installed only after the Customer has made a deposit based on the estimated cost of construction. Such deposit will be applied as a credit against the actual costs billed for installation and removal of the temporary service facilities.

Information regarding the charges for temporary service can be obtained from the Utility (222 Truman Road / 628-2581).

5.2 Services For Unusual Load Characteristics

The operation of Customer equipment having a relatively high load of short or intermittent duration, such as welders, compressor motors, elevators, and X-ray equipment, may cause serious fluctuations of voltage and interfere with the service being provided by the Utility to other customers. If such a load is anticipated, the Customer must consult with the Utility and agree to install such protective devices as may be required so as not to cause damage to any of the Utility's equipment or in any way inhibit service to other customers. In addition, special compensation may be required by the Utility from the Customer in those cases where it is necessary for the Utility to install special or larger facilities than would normally be required to provide satisfactory service.

5.3 Redundant Facilities

The Utility will normally provide one set of facilities (such as a set of primary cables and a transformer) to one point of service for each Customer. If a Customer requires redundant facilities (more than one set of facilities to the same point of service), the Utility must be advised as soon as possible so the feasibility of such service can be determined. If the Utility determines that redundant facilities can and will be provided, the Customer will be required to reimburse the Utility for the entire cost of additional facilities, including all labor and materials. An agreement between the Customer and the Utility may also be executed.

5.4 Relocation or Protection of Utility Facilities

It is the responsibility of the Customer to arrange for the relocation and/or protection of the Utility's facilities whenever such action is appropriate. Any intended relocation or protection of Utility facilities must be reviewed with and approved by the Utility in advance. The cost of any change or relocation of the Utility's facilities for the benefit only of the Customer, and which has been initiated by the Customer, shall be borne solely by the Customer. A deposit by the Customer may also be required before the changes are made. The Utility will bear costs to the extent that a change or relocation benefits the Utility.

5.5 Security Lighting

Security Lighting is available under its own rate schedule classification for those Customers requesting it.

6. METERS

6.1 Responsibilities for Providing Metering Equipment

The Utility supplies and installs, at its own expense, all meters and such accessories as are required for billing purposes, including watt-hour and varhour meters, demand meters, current and potential transformers, phase-shifting transformers, and test switches. It shall be the responsibility of the Customer to secure all meter socket bases, or meter centers for multiple meter installations, which shall be approved by the Utility for the application prior to installation. Unless by special permission, the Utility for each application or contract will install only one meter setting for each class of service.

6.2 Location of Meters

Meter locations will be agreed upon by representatives of the Customer and the Utility, subject to final approval by the Utility.

Residential - Unless by special permission, all new or rewired residential services must have the meter located outdoors. Where more than one meter is installed, as on duplex apartments or apartment houses, the meters shall be grouped, either indoors or outdoors, at a point accessible at all times to each Customer and to Utility employees.

Industrial and Commercial - Meters for industrial and commercial service shall be located outdoors, unless specific approval is obtained from the Utility for an indoor location.

In all cases where the meter is mounted on a permanent structure, the meter shall have a height of not more than 72 inches and not less than 48 inches from final grade to the center of the meter.

Meters shall be situated such that there is not less than three feet of un-obstructed space in front of and one foot on all sides. Meters shall not be located where they are subject to corrosive fumes, dust, vibration or physical damage. Outdoor meters shall not be located in carports, under porches whether open or enclosed, or along walkways or driveways where they might create a hazard to people or be subject to damage by passing objects.

Meter locations shall not be hazardous or cause inconvenience to employees of the Utility when installing, maintaining, or reading the meters.

6.3 Grouped Meters

In installations requiring more than one meter, the meters shall be grouped and suitably connected such that a meter serves no more than one Customer. The height limits stated previously also pertain to grouped meters where practicable. If deemed necessary by the space available, the meters may be stacked in an orderly fashion. Any dwelling with more than one Customer living therein must have an individual meter for each dwelling unit. These meters must be easily accessible to all tenants and to personnel of the Utility. *There shall be an approved type of disconnecting means for each meter which is lockable in some way to prevent reconnection by other than Utility personnel.*

6.4 Meter Identification

If more than one meter is required for a building, each meter socket shall be identified and permanently designated in a suitable manner indicating the particular customer served. Each circuit shall be carefully traced and re-checked by the contractor to ensure against errors in wiring, whereby one customer might obtain service through the meter serving another Customer. This is especially important when the wiring is concealed.

6.5 Meter Mounting

Outdoor meters and meter mounting devices shall be mounted securely on permanent structures such as houses, garages, and other buildings. Where outdoor meters are installed on surfaces which prevent installation of the meter mounting device in an exact vertical plane, a meter board must be installed or the surface modified in such a manner that the meter mounting device can be installed vertically. Meters must be located within ten (10) feet of the front end of the building (house or attached garage) on single family dwellings for new customer hook-ups or rewires.

Indoor meters, *where permitted*, shall be mounted in accordance with the preceding requirements of this section and shall be located as close as possible to the point where service enters the building. Indoor metering equipment shall be mounted securely in a vertical plane on permanent structures in a location free from moisture, high temperature, vibration, dust or dirt.

6.6 Meter Connections

The Customer shall complete the required wiring for the meter set with the wiring so arranged that the line (supply) side can be connected to the top terminals of the socket and the load side to the bottom terminals. All conductors shall extend into the meter socket with adequate length to enable proper conductor connections. All neutral conductors must be insulated. Where the service is three-phase, four-wire delta, the Customer's phase wires on the load side of the meter shall be permanently identified as recommended in the National Electrical Code. The conductor serving power load only shall be permanently identified or have a distinctive orange covering, and shall be connected to the top, right-hand terminal of the meter socket.

6.7 Wiring Restrictions on Meters and Metering Sets

No Customer wiring will be permitted to be connected to the metering secondary wiring or under the terminals of the meter. No part of the metering set may be used as a junction box for the Customer's wiring.

6.8 Meter Testing

Any Customer who believes that a meter is failing to properly register the use of electricity may request a meter check by contacting the Utility. The Utility will test the meter using standard calibration equipment and generally accepted test procedures within a reasonable period of time. Customers who request additional tests of the same meter within a twelve (12) month period may be charged for the additional tests at a standard fee.

Whenever a meter is found to have an average error exceeding the allowable tolerance by more than 2.0 percent, or in the case of a demand meter, by more than 1.5 percent, the utility shall adjust a current customer's bill or issue a refund or back bill to a past customer. The amount of the adjustment shall be calculated on the basis of metering accuracy of one hundred percent. The adjustment period shall extend from the date the error began. If that date cannot be determined, it shall be assumed the error has existed for the shortest time calculated as five years from the date the error was discovered, on half the time since the meter was installed, or one half the time since the last previous meter test. When the adjustment is due to meter "creep" it shall be assumed that creeping affected meter registration 25 percent of the adjustment period. The adjustment period for slow meters shall not exceed six months without the approval of the governing body. When a meter is found not to register, the utility shall issue an estimated bill.

An adjustment, refund or back-billing shall be made for any overcharge or undercharge resulting from incorrect reading of the meter, incorrect application of the rate schedule, incorrect meter connection or other similar reason.

This section shall not be construed to require a cash refund to a current customer nor a refund or back-billing to a previous customer in an amount less than two dollars. The utility further reserves the right to forego back-billing procedures which it determines are not cost effective.

6.9 Meter Seals

All connections to the Utility's service equipment shall be made by Utility personnel only. *Unauthorized connections to or tampering with any Utility Meter, associated equipment or meter seals, or indications or evidence thereof subjects the Customer to immediate discontinuance of service, prosecution under the laws of Iowa, adjustment of prior bills for services rendered, and reimbursement to the Utility for all extra expense incurred on the account.* In addition, when the unauthorized connections or tampering involve an inside meter, the Customer shall, at his own expense, relocate all service equipment and metering facilities outside the building.

6.10 Instrument Transformer Installation

When the ampacity of the service entrance conductors is greater than the ampacity of the meter socket base, it will be necessary for the Utility to use current transformers in the metering installation. In addition, potential transformers may be used on 480Y/277 volt services. The Utility will install the instrument transformers on the line side of the Customer's service entrance disconnect switch. The Customer shall not install any additional disconnect switches or junction boxes on the line side of the instrument transformer location.

A. Underground Service from Pad-Mounted Transformers:

Where service is underground from a pad-mounted transformer installed for one individual Customer and no additional Customers are anticipated, the Utility may install the current transformers and potential transformers within the secondary compartment of the transformer. The Customer must furnish and install a 1" RGS metering conduit from the transformer compartment to a meter location approved by the Utility. The conduit shall not contain more than four 90-degree bends and when the conduit is longer than 50-ft., a pull wire shall be installed in the conduit. Conduit runs shall not exceed 125-ft. except by special permission. If more than one Customer is to be served from the same pad-mounted transformer, current transformers and potential transformers cannot be installed in the secondary compartment of the transformer, and each Customer must install a separately mounted metering current transformer box and a metering potential transformer box when potential transformers are required.

B. Secondary Metering Current Transformer Box:

Metering current transformer boxes shall be furnished and installed by the Customer. The service entrance phase conductors installed in a metering current transformer box may be made up of two identical wires in parallel per phase for conductor sizes between I/0 and 500 Kcmil. Each pair of paralleled phase conductors shall be of the same color or shall be taped together or otherwise marked for easy identification. Conductors may not be paralleled where the total combined area per phase is less than 211 Kcmil (two 1/0) or greater than 1,000 Kcmil (2-500 Kcmil). No more than two conductors per phase shall be used regardless of conductor size. The details of a bus bar type current transformer installation must be approved by the Utility before construction.

C. Secondary Metering Potential Transformer Box:

When potential transformers are required, the customer shall furnish and install a metering potential transformer box. The metering potential transformer box shall be mounted to the side of and connected to the metering current transformer box with a 1 1/4-inch conduit nipple.

D. Primary Metering Compartment:

When primary metering is to be installed, the Customer shall furnish a compartment or switchgear cubicle to house the primary current and potential transformers. The metering point shall be located electrically between the point of interconnect and the Customer's main disconnect.

When practical, the Utility will request that the Customer install instrument transformers per Utility specifications. The Utility will reimburse to the Customer the installed cost of the instrument transformers.

E. Primary Metering Unit:

Where primary service is to be provided, the Utility may elect to utilize a pad-mounted primary metering unit. Outdoor primary metering units are furnished by the Utility. The point of delivery will normally be the terminals of the Utility's cable in the Customer's switchgear.

6.11 Self-contained Metering / Commercial Installations

In general, the Utility will install self-contained meters (meters without instrument transformers) on commercial services through 200 amp. Where such metering is to be used, the customer shall provide a lever-operated bypassing socket. Such sockets permit a continuation of service upon removal of the meter for testing or maintenance.

7. CUSTOMER UTILIZATION EQUIPMENT

The Customer's service entrance and utilization equipment shall be installed in accordance with all local, state and National Electrical Code requirements. It is the intent of this section to provide the Customer with recommendations concerning factors that can affect both the utility and the customer in the selection, installation, maintenance and operation of the customer's utilization equipment. If concerns arise that are not covered in this section, the Utility should be contacted.

7.1 Motor Protection Devices

The Utility's power system is designed to provide reclosing of some of its protective devices following power interruptions resulting from lightning or other causes. In most instances these power interruptions will be of short duration. It is recommended that over-current protective devices be provided in each phase to afford some motor-running protection of three-phase motors against "single-phasing". The Utility is not responsible for damage caused by "single-phasing" which results from an act of nature.

7.2 Motor Starting Currents

Generally, all motors require a starting current substantially greater than their normal running current. Where starting currents are excessive, an abnormal drop in supply voltage will result. In order to minimize the unfavorable effects of such voltage drops, it is essential that the Customer's motors do not exceed the following characteristics:

Equipment Rated At:

120 volts, single-phase.....Not to Exceed 1/2 horsepower

240 Volts, single-phase.....Not to Exceed 5 horsepower

three-phase.....…….....Not to Exceed 25 horsepower

NOTE: Customers planning to install any motor larger than 5 hp single phase or

25 hp three phase must contact the Utility.

7.3 Power Factor

In order to improve the efficiency of the Utility's distribution system, the Customer's utilization equipment shall maintain an average power factor as close to unity as possible.

Some of the Utility's rate schedules include a demand charge and a penalty for an average power factor that is less than the prescribed limits under the billing adjustments for the appropriate rate schedule. For new services, it is suggested that the Customers utilization equipment be designed for operation at high power factor or with capacitors that are switched on and off with the equipment.

The Utility will calculate the power factor of Customers in designated rate classes by installing a Varhour meter or electronic metering capable of determining power factor.

7.4 Fault Currents

The Customer's service equipment and other devices shall be adequate to withstand and interrupt the maximum available fault current. For single family residences with service equipment rated 200 amperes maximum and 120/240 volts, single phase, equipment shall have a minimum interrupting rating of 10,000 amperes symmetrical and other equipment shall be braced to withstand that minimum value. For other than single family residences, the Utility shall be contacted to determine maximum existing and future anticipated fault currents. An interrupting rating of not less than 65,000 amperes shall used when the fault currents cannot be readily identified.

7.5 Wiring Adequacy

The National Electrical Code (NFPA No. 70) specifies the adequacy of wiring with respect to safety but such installations may not be efficient, convenient, or adequate for good service or future electrical expansions. In many instances, the installation of wiring capacity greater than minimum code requirements is strongly recommended.

7.6 Customer-Owned Generating Equipment

Unless authorized by written agreement, electric generating equipment installed by the customer shall not be interconnected or operated in parallel with the Utility system. The customer shall own, install, operate, and maintain electrical interlocking equipment which will prevent parallel operation and such equipment shall be approved by the Utility prior to installation.

7.7 Energy Conservation

The Utility encourages the prudent and efficient use of the electric power and energy which it provides. Customers desiring special information or other assistance regarding the efficient end use of electricity should contact the Utility at 628-2581.

As a condition of electric service for space heating or cooling, the owner or builder of any structure, completed after April 1, 1984, and intended primarily for human occupancy, must certify to the utility that the building conforms to the energy conservation requirements of the State Building Code [661 IAC 16.800(3) as amended by 16.800(4)]. If compliance is being certified to another state or local agency, a copy of the certification form may be provided to the utility. If no other certification is being made, the utility will provide a form.

8 OVERHEAD SECONDARY SERVICE

The Utility will supply overhead secondary service (125' or less) at the voltages and under the conditions specified in other sections of this publication. The service entrance location will be specified by the Utility. Lengths exceeding 125' will be billed at current cost to the customer. This section includes information on transformer size, overhead service drop, and connections to the Customer's premises or equipment. Metering and customer equipment requirements are covered in other sections. The requirements of this section apply to all residential, commercial, and industrial customers, in designated overhead areas.

8.1 Maximum Transformer Size

The maximum overhead transformer size installed by the Utility will be either one 50 KVA transformer for a single phase application or three 15 KVA transformers for multiphase applications. If a larger transformer size is required for a particular application, it shall be of pad-mounted type unless it is determined by the Utility that such installations are either technically or economically undesirable.

One or more secondary services may be supplied from a transformer; the number of services from a transformer shall be determined by the Utility depending upon the application.

8.2 Service Drop Conductors

The service drop for services will be a twisted wire triplex (three wires) or quadruplex (four wires) configuration from the distribution system to the point of attachment on the Customer's premises.

Existing services may be either a twisted wire or open wire configuration. If necessary for various reasons, the Utility may change a service from an open wire to a twisted wire configuration.

8.3 Clearances

The service drop must be so located that the minimum clearance as specified in the latest editions of the National Electrical Code (NFPA No. 70) and the 1993 National Electric Safety Code (ANSI C2) are maintained. Service drop conductors shall not be installed above a swimming pool or surrounding area extending 10 feet horizontally from the pool edge, diving structure, observation stands, towers, or platforms.

8.4 Point of Attachment

A solid point of attachment for supporting the service drop on the building shall be provided by the Customer at a point which will comply with previously stated clearances. Where the required heights and clearances cannot be maintained by a point of attachment on the building, the Customer

shall provide a service mast, which is of a permanent nature and of sufficient strength to support the service drop at the required minimum clearance. In such an installation, 2½ in. or larger galvanized steel conduit or 3-in. or larger rigid aluminum conduit shall be used. The Utility reserves the right to decline to connect its service drop to an extension support which, in its judgment, constitutes a hazard to life or property.

8.5 Service Entrance

The Customer's service entrance wiring shall terminate at a point so located that the service drop from the supply lines will not interfere with windows, doors, awnings, drainpipes, or other parts of the building or other obstructions so that only one bracket is required.

9. UNDERGROUND SERVICE

9.1 Underground Service in New Residential Developments

The Utility requires the complete underground installation of primary and secondary distribution service laterals to new structures in all residential zones, except in those cases where it is determined that such underground installations are either technically or economically undesirable.

The Utility will designate a junction point for the connection of the Customer's secondary underground service lateral. The junction point will be a service pedestal, junction box, the terminals of a pad-mounted transformer, or a meter enclosure. In general, the Utility will install, own, operate, and maintain all facilities on the source side of the junction point, including the junction enclosure and the connections. The Utility will also install and maintain all the service lateral conductors from the junction point to the point of delivery. The Customer will install, own, operate, and maintain all conduit required by the Utility between the designated junction point and the point of delivery, and related service equipment on the load side of the point of delivery. However, the developer of a new subdivision is responsible, during general development, for installing all conduits on the source side of the designated junction point, and installing all bases, pads, and underground enclosures required for equipment and cables per Utility specifications.

Junction points will be located within the Utility's easement area along or near a front property line unless it is necessary or desirable to designate locations which are closer to the metering point(s). In such cases, the Customer will be charged for the installed cost of any additional lengths of underground conduit and cable from the property line to the junction point. Such charges shall be in addition to any other charges required.

The Utility's primary and/or secondary distribution laterals will normally be installed within front lot line utility easements provided by the Customer as a part of the recorded property plat. All utility easements requested by the Utility are to be granted by the Customer at no cost to the Utility.

9.2 Underground Service in Residential Overhead Areas

Customers intending to relocate, upgrade, or replace an existing overhead service must request underground service. The Customer shall install, own, operate, and maintain the facilities specified in 9.1 (underground service in new residential developments). The Customer will have the option of supplying just the ditch in lieu of the ditch and conduit for the service lateral conductors.

9.3 Underground Service to Commercial and Industrial Customers

The Utility encourages the underground installation of primary and secondary distribution service laterals to new commercial and industrial structures. The Utility will designate a junction point for the connection of the Customer's secondary underground service lateral. The junction point will

normally be the secondary terminals of a pad-mounted transformer placed at a mutually agreeable location on the Customer's property, as close as practical to the metering point.

The Utility will install, own, operate, and maintain the primary underground cable, the distribution transformer, and the secondary connections.

The primary cable will be installed in schedule 40 PVC conduit, (42" deep) from the Utility's main distribution system, on or adjacent to the Customer's property, to the distribution transformer. If underground main distribution facilities are located on the Customer's property, the Customer shall provide the conduit from a designated tap point to the distribution transformer. If overhead main distribution facilities are located on the Customer's property, the Customer shall provide and install the conduit, including the steel elbow and first 10 feet of steel conduit, from the riser pole to the pad-mounted distribution transformer.

The Customer shall furnish and install a transformer pad to the Utility's specifications. If the transformer is located in an area where it may be subject to physical damage (e.g. from vehicular traffic), the Utility may require the Customer to furnish and install an approved means of protection.

The Customer shall install, own, and maintain all secondary cables and conduits from the transformer to the building service entrance; the cables and conduit shall be buried 30 inches minimum below final grade. If service is such that a secondary lateral is to be installed directly from the Utility's main secondary distribution system, the secondary cables and conduit shall be installed, owned, and maintained by the Customer. (Conduit for the riser pole, if required, shall also be furnished by the Customer). The Utility must approve the design of all secondary bus duct and cable bus designs. The installation will be inspected by the Utility and the secondary connections to the transformer will be made by the Utility. It is the Customer's responsibility to coordinate with and provide the necessary information to the Utility to assure that adequate connections are made at the secondary terminals of the transformer. The Utility will furnish and install the meter in accordance with the requirements of section 6. The maximum number of secondary connections available shall be eight (8) - 500 MCM conductors.

Secondary cables installed in a Utility manhole must be copper conductor.

9.4 Transformer Clearances

Where pad-mounted transformers and equipment in pad-mounted enclosures is installed, minimum clearances shall be maintained. Fences, shrubbery, and trees may be installed by the Customer provided that the specified clearances are maintained, the grade is not altered, and the underground cables are not endangered.

1. RESPONSIBILITIES ASSOCIATED WITH URD INSTALLATIONS

UTILITY AND CUSTOMER RESPONSIBILITIES ASSOCIATED WITH UNDERGROUND RESIDENTIAL DISTRIBUTION

A. UTILITY RESPONSIBILITIES

1. Designate service location or transformer location.

2. Supply and install all primary cable, pad-mounted transformers, and secondary service main and lateral conductors.

3. Install conduit supplied by the customer on the terminal poles.

4. Make all primary terminations and connections and install the grounding system.

5. Connect the secondary conductors at the Utility's secondary terminal, and at the point of delivery.

6. Supply and install the meter(s) and any other meter accessories needed for billing purposes, excluding the meter socket.

7. Energize equipment and cables.

B. CUSTOMER RESPONSIBILITIES

1. Contact the Utility to obtain the location or the Utility's facilities and customer service point and to complete an "Application for Service," and any other forms or statements required by the Utility.

2. Provide necessary easements and clear the area of all construction obstructions.

3. Notify the Utility prior to any proposed building or grade changes within 10 feet of the electrical service or the cable route.

4. Notify the Utility as far in advance as possible when any unusual loads are anticipated, such as special medical equipment, arc welders, elevators, or any other equipment which could affect the Utility's system or any other Customers.

5. Protect the Utility facilities from damage during the construction period.

6. Provide easy accessibility to the area 24 hours a day.

7. Install schedule 40 conduit for the service lateral conductors between the Point of delivery and the secondary junction point (min. 2-1/2" conduit, 30" deep). The conduit shall be schedule 80 PVC or rigid steel conduit from the meter socket to a point 5 foot beyond the over dig of the structure.

8. Clean and install a polypropylene pull line in all conduits. (minimum tensile strength 200 lbs.).

9. Provide ditch and compaction of the soil around the customer installed conduit.

10. In new developments install conduits as designated by the Utility, at the appropriate time as the site is developed. Bring all areas to final grade before installation of schedule 40 conduits, pads, bases, and underground enclosures. Maintain grade stakes at all front lot line property corners.

11 Provide firm soil conditions under and around the pad, base, and underground enclosure areas as required to prevent settling. Provide pads, bases and underground enclosures per Utility specifications.

12 Provide the following clearances around the transformer: front (10 feet), sides and back (24 inches). Clearances must be at the same grade as the transformer.

13 Install protective posts if the transformer pad is to be installed in parking areas or in areas of vehicular traffic.

14 In new developments, provide a trace wire with all duct(s) installed in public right-of-way. The tracer wire should be coiled (min. 6'), and attached to the duct at the end of each run. Contact utility for wire specifications.

15 Clean and install polypropylene pull lines in all conduits (minimum tensile strength 200 lbs.) Test to verify the integrity of the duct(s) by pulling a utility furnished mandrel or duct cleaner through all ducts. When tested, leave the polypropylene line in the duct and seal with protective caps or duct tape.

2. RESPONSIBILITIES ASSOCIATED WITH 3 PHASE INSTALLATIONS

UTILITY AND CUSTOMER RESPONSIBILITIES ASSOCIATED WITH UNDERGROUND THREE-PHASE INSTALLATIONS

A. UTILITY RESPONSIBILITIES

1. Designate service location or transformer location.

2. Supply and install pad-mounted transformer.

3. Make all primary terminations and connections.

4. Connect the Customer's secondary cable to the secondary terminals of the transformer.

5. Energize the service.

6. Install conduit supplied by customer on terminal poles.

7. Supply and install all primary cable at no cost to the Customer after said Customer furnishes and installs conduit for the entire distance from the property line to the transformer.

8. Supply and install one meter set for each Customer, including all meters required for billing purposes and any accessories such as totalizers, current and potential transformers, phase-shifting transformers and test switches.

9. Inspect customer-furnished equipment required by Utility. Installations not in compliance with Utility regulations will be rejected.

B. CUSTOMER RESPONSIBILITIES

1. Contact Utility to obtain the location of Utility's facilities and customer service point, complete an "Application for Service," and any other forms or statements required by Utility.

2. Provide necessary easements and clear the area of all obstructions.

3. Bring area to final grade prior to installing conduits. Grade changes requiring conduit adjustments will be the Customer's responsibility.

4. Providing compaction along conduit routes after the installation of conduits is the Customer's responsibility.

5. Furnish and install a transformer pad to Utility specifications. Contact the Utility to obtain pad specifications for the specific service being installed. Notify the Utility to inspect formed pad prior to pouring concrete.

6. Provide the following minimum clearances around the transformer: front, 10 feet; sides and back, 24 inches. These clearances must be at the same grade as the transformer.

7. Provide easy accessibility to the area 24 hours a day.

8. Furnish and install all secondary cables and conduits from the transformer to the building service entrance.

9. Furnish and install a Utility specified type, length, quantity, and size Schedule 40 conduit(s) to the point of interconnect with the Utility (42" minimum cover). The Utility will specify either high density polyethylene (HDPE), or polyvinyl chloride (PVC). The Utility will also specify whether either fiberglass or rigid steel elbows for all 90 degree bends, including sweeps at the riser pull, and transformer. Minimum elbow (bend) radius shall be 36".

10. Install protective posts if transformer pad is to be installed in parking area or area of vehicular traffic.

11. Protect the Utility facilities from damage during the construction period.

12. Notify the Utility prior to any proposed building or grade changes within 10 feet of the electrical service or the cable route.

13. Supply and install Utility approved meter socket on the outside wall or approved location and install conduit to service cable.

14. Notify the Utility as soon as possible about any anticipated unusual loads, such as from arc welders, x-ray machines, elevators, etc. Special compensation from the customer may be required by the Utility for such loads.

15. Clean and install polypropylene pull lines in all conduits (minimum tensile strength 200 lbs.)

3.A. MINIMUM CLEARANCES FOR SERVICES

Clearances for utility owned service drops and cables, beyond the perimeter of the customer's building, will be controlled by the requirements in the National Electrical Safety Code. Clearances shown are for multiplex (duplex, triples, quadruplex) service drop conductors. Open wire service conductors require greater clearances.

A. The drip loop or service attachment fixture, whichever is the lowest point, shall have 10 feet minimum vertical clearance above final grade. A clearance of 12 feet is required for 480 volt services.

B. The clearance between the service attachment and weatherhead shall be 12 inches minimum and 36 inches maximum (the service head is to be no lower than the point of attachment for the service drop conductors).

C. Insulated or covered service conductors that are not protected by conduit or raceway shall have a minimum clearance of 3 feet from windows, doors, porches, fire escapes, signs, and similar construction.

D. The diagonal distance, from the nearest edge of the balcony handrail to the service conductor, shall be 8 feet minimum.

E. Refer to exhibits 4A and 4B "SERVICE OVER ROOFS."

F. Minimum vertical clearances between service drop and communication conductors shall be 2 feet at the conductor crossing and 40 inches at adjacent, vertically spaced attachments to the building.

G. The minimum vertical clearance shall be:

12 feet above sidewalk, ground, and driveways to residence garages;

18 feet over commercial areas (as required by NESC);

18 feet above public driveways, alleys and streets.

H. For individual settings, the clearance between the center of the glass meter cover and the finished grade is to be 6 feet maximum and 4 feet minimum.

I. The dimensions between the hinged side of the door and the nearest surface of the glass meter cover is to be door width plus 6 inches.

J. The horizontal measurement from the inside surface of the nearest pool wall to underground service cable is to be 10 feet minimum.

K. Electric service entrance, switches, or similar sources of ignition shall not be installed within 3 feet of a natural gas meter, as required by the National Fuel Gas Code.

L. The minimum clearance in any direction, over surface of water or from nearest edge of pool shall be 18 feet.

M. The horizontal clearance from the nearest side of the meter socket enclosure and any structural protrusion shall be 3 inches minimum.