

**MUSCATINE POWER AND WATER
ELECTRIC CUSTOMER SERVICE HANDBOOK**

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DIVISION ONE
STATEMENT OF OPERATION

1.1 Preliminary Statement

These service rules shall be considered part of the application for service signed by the customer, and such applications are accepted by the Governing Body subject to the provisions herein.

The rules of operation have been promulgated by the Board of Water and Light Trustees of the City of Muscatine, Iowa. They are issued pursuant to Chapter 476, Code of Iowa, and govern the distribution of electricity by the Utility within its exclusive service area as approved by the Utilities Division of the Iowa Department of Commerce.

These service rules are subject to change from time to time to ensure safe and efficient service and compliance with city, state and federal statute and applicable administrative law.

These service rules are intended to broadly govern operation of the Electric Utility. Where a rule cannot be reasonably applied to a specific situation, the Governing Body reserves the right to act in an adjudicative capacity to resolve such conflicts.

Certain aspects of Utility operations are regulated by the Utilities Division of the Iowa Department of Commerce. Unless a statute specifically provides for regulation of municipally owned utilities, regulatory authority is limited to those statutes referenced in section 476.1B of the Code of Iowa.

The Utility's records and service rules are maintained in the business office located at 3205 Cedar Street, Muscatine, Iowa. All written correspondence should be addressed to Muscatine Power and Water, 3205 Cedar Street, P.O. Box 899, Muscatine, Iowa 52761-0899.

1.2 Definitions

The following words and phrases shall have the following meaning, as used in these service rules:

A. "Applicant" means a person, partnership, association, firm, public or private corporation or governmental agency or legal entity, applying to the Utility for service provided for in these service rules.

B. "Complaint" means a statement or question by anyone, whether a Utility customer or not, alleging a wrong, grievance, injury, dissatisfaction, illegal action

or procedure, dangerous condition or action, or Utility obligation. Complaints are requested to be submitted in writing.

C. "Contract" means any claim, account or demand against, or agreement with, the Utility, express or implied.

D. "Contractor" means any person, firm, or corporation performing work for a customer.

E. "Customer" means any person, firm, association, or corporation, any agency of the federal, state or local government, or legal entity responsible by law for payment for the electric service from the Utility. In the case of a residence, customer also means other adult persons occupying the residence.

F. "Delinquent or delinquency" means an account for which a service bill or service payment agreement has not been paid in full on or before the last date for timely payment.

G. "Demand" means the quantity of electrical power needed by the customer at a given point in time.

H. "Electric service" is furnishing to the public any power and energy for compensation .

I. "Energy" means electric energy measured in kilowatt-hours.

J. "Governing Body" means the Board of Water and Light Trustees.

K. "IAC" means the Iowa Administrative Code, as amended, and is used in designating references within the Code.

L. "IUB" means Department of Commerce Utilities Division Iowa State Utilities Board.

M. "Maximum demand" means the greatest demand required by a customer during a specific length of time.

N. "Meter" means, unless otherwise qualified, a device that measures and registers the quantity of electrical energy used.

O. "Power" means electric energy measured in kilowatts.

P. "Premises" means a tract of land, building, part of a building or facility to which electric service is provided.

Q. "Service rules" means these rules as adopted by the Board of Water and Light Trustees.

R. "Timely payment" is a payment on a customer's account made on or before the date shown on a current bill for service, or on a form which records an agreement between the customer and the Utility for a series of partial payments to settle a delinquent account.

S. "Utility" means Muscatine Power and Water.

DIVISION TWO SERVICE

2.1 Type of Service

2.1(1) Extent of Service (Availability)

The Utility shall make available, throughout its assigned service area, electric service of character determined by the Utility to meet the needs of the customer. In providing the service, the Utility shall construct, own and maintain all facilities up to, but not including the point at which the service wire is attached to the premises.

The Utility shall also own and maintain the meter. The Utility will extend electric service to users within its service area without regard to race, color, religion, sex, age, national origin or handicap.

2.1(2) Delivery Outside Assigned Utility Service Area

Where it is necessary that electric lines be constructed to a point of delivery outside the Utility service area, the electric line will not be constructed under the service area coverage policy. All costs of construction will be assessed in accordance with existing Utility policy governing service extensions. Ownership of such extension shall be in accord with existing Utility policy governing service extensions. The Governing Body of the Utility will make nonservice area extensions decisions on a case-by-case basis. The requirements of IAC shall govern to the extent applicable.

2.1(3) Electricity Characteristics

A. Standard

The standard electric service available is 120/240 volt 60 hertz (cycles per second) alternating current single-phase, 400 ampere or less, overhead conductor.

B. Secondary

Secondary voltages may be made available for special service requirements at the Utility's option.

The secondary service voltage levels are nominal and may vary within the normal and generally acceptable limits of regulation of the IUB regulations governing service supplied by electric utilities.

C. Primary Voltage Service

Service at primary voltage may be available for large power and lighting loads at voltages designated by the Utility.

D. Character Restrictions

The character of electric service to be made available to each customer shall be dependent upon:

- (1) The service available at the proposed location.
- (2) The size of the load.
- (3) The operating characteristics of the customer's equipment.

2.2 Engineering Practices

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, uniformity in the quality of service furnished, and the safety of persons and property. However, the Utility shall not be held liable in actions arising from interruptions or fluctuations in service. Also, the Utility shall not be held liable for damage to any customer or third party equipment resulting from use of its service or from presence of Utility equipment on customer's premises.

The Utility shall require customers to comply with applicable provisions of the publications listed below as standards of accepted good practice unless otherwise ordered by the IUB.

- A. National Electrical Code, ANSI/NFPA-70.
- B. Recommended Practice for Grounding of Industrial and Commercial Power Systems, IEEE Std. 142 (the IEEE Green Book), or Grounding of Industrial and Commercial Power Systems ANSI C114.1.
- C. City Electric Code of Muscatine, Iowa.
- D. National Electric Safety Code (NESC)

In the case of a conflict between standards listed, the most stringent standard shall govern to the extent required.

References to the publications listed in A through C above shall be deemed to be the latest edition or revision accepted by the IUB as a standard of good practice.

2.3 Special Conditions of Service

2.3(1) Requirements for Electric Motors

All installation of power loads on the Utility's system shall conform to the safety rules as set forth in the National Electrical Code, and other such codes or specifications as may be applicable.

A. Protective Devices

The customers are required to provide suitable protective devices so that the motors and equipment to which they are connected will be protected from injury and from improper or dangerous operation in case of overload, loss of voltage, low voltage, single phasing of polyphase motors, reversal of phase rotation of polyphase motors or the re-establishment of normal service after any of the above. The Utility is not responsible for motor damage caused by any of the above conditions.

B. Large Motor Application

No motor with an inrush current of an amperage which would overload the Utility distribution system shall be installed without application by the customer and the express approval of the Utility. The Utility reserves the right to limit the number and size of motors installed on single-phase and three-phase services.

C. Customer Responsible for Communication

The customer or his agent shall contact the Utility regarding requirements for motor starting equipment, protective equipment, wiring and other motor specifications.

2.3(2) Maximum Single-Phase Loads - Transformer Upgrade

In each case where the simultaneous single-phase load is about to exceed the capability of the installed transformer, it shall be the responsibility of customer to make arrangements with the Utility for the installation of a suitable transformer before such simultaneous load exceeds the capability of the presently installed transformer.

The Utility reserves the right to limit the capacity of any single-phase service when, in its judgment, such service will impair the service to other customers, or such service shall exceed the capacity of the Utility's facilities.

2.3(3) Corrective Equipment

Welders, hoists, corn dryers and other equipment, where the use of electricity is intermittent, or the load fluctuates rapidly, shall be installed and used in such a manner as to not adversely affect voltage regulation or impair the Utility's service to other customers. When such equipment creates fluctuating voltage or power factor conditions, or any other disturbance detrimental to service to other customers or to the Utility's use of its own equipment, the customer will be required to install and maintain, at their own expense, suitable corrective equipment to eliminate these detrimental effects.

2.3(4) Arc Welding Installation

Home welders cannot be connected to residential secondaries of the distribution system except by special permission of the Utility.

Ordinarily home welders must have a separate transformer installed and separate service extended to the home or garage which is not connected to the regular lighting secondary to avoid flicker and voltage disturbances.

The customer must pay all costs for installing the additional transformer and service.

Separate metering and billing will be provided at the commercial rate.

2.3(5) Standby Generators

No other source of supply of electricity shall be introduced or used by any customer in conjunction with electric service supplied by the Utility without prior written approval of the Utility.

If standby facilities are to be employed, a single-change-over switch that provides a visible opening and is padlockable in the open position, or a relay of adequate capacity shall be provided and so connected that the Utility lines cannot become energized by a standby power source under any condition.

2.3(6) Energy Conservation Certification for New Structures

The Utility shall not extend or provide service to any structure completed after April 1, 1984 unless the owner or the builder of the structure has certified to the Utility that the building conforms to the energy conservation requirements adopted under IAC subrule 661-16.800(3) as amended and updated by subrule 661-16.800(4).

If this compliance is already being certified to a state or local agency, a copy of that certification shall be provided to the Utility. If no state or local agency is monitoring

compliance with these energy conservation standards, the owner or builder shall certify that the structure complies with the standards by signing a form provided by the Utility.

No certification will be required for structures that are not heated or cooled by electric service, or are not intended primarily for human occupancy.

2.3(7) Other Special Conditions of Services

Transformer Size

The Utility will determine the size of transformers to be installed to provide adequate service and voltage regulation for all types and classifications of service. Transformer size will be determined by load information supplied by the customer and/or comparison to a similar type load requirement.

2.4 Class of Service

Service classification shall be based upon the type of service supplied and on similarities in customer load and demand characteristics. Service classifications shall be defined as part of the rate schedules adopted by the Governing Body. In addition, the Utility reserves the right to supply industrial I and industrial II service in accordance with the provisions of a written contract. As nearly as practicable, rate schedules adopted by the Utility shall reflect relative differences in the costs of providing various quantities of service to each customer class.

2.4(1) Residential

Standard electric service for permanent residence shall be available at the applicable rate schedule.

A. Residential Service Entrance (Overhead)

In new or remodeled single family dwellings regardless of size, a minimum of a 120/240 volt, 60 hertz, single phase, three wire - 200 ampere service entrance must be installed in accordance with the City Electric Code. (Exhibits 1 and 2)

B. Residential Service Entrance (Underground)

In new or remodeled single family dwellings, regardless of size, a minimum of a 120/240 volt, 60 hertz, single phase, three wire - 200 ampere service entrance must be installed in accordance with the City Electric Code. (Exhibits 3 and 4).

2.4(2) Commercial I

Standard single-phase, 120/240 volt, 60 hertz service for commercial I use shall be available at the commercial I rate schedule. Three-phase 120/208 volt wye or

277/480 volt wye, 60 hertz service for commercial I use may be available at the commercial I rate schedule. Minimum single-phase, 120/240 volt 60 hertz service size shall be 100 ampere.

2.4(3) Commercial II

Any customer with a demand of at least 75 kW but less than 1000 kW shall be billed for service at the commercial II rate schedule.

2.4(4) Industrial I

Any customer with a demand of at least 1000 kW but less than 7500 kW shall be billed for service at the industrial I rate schedule.

2.4(5) Industrial II

Any customer with a demand of at least 7500 kW shall be billed for service at the industrial II rate schedule.

2.4(6) Security Lights

Security lighting shall be available in areas served by overhead distribution lines at the security light rate schedule. The lights shall be owned and maintained by the Utility. Any additional costs shall be paid in accordance with the Utility's security light lease agreement.

2.4(7) Street Lights

Street lighting shall be available in areas outside the City of Muscatine but within our electric service territory at the street light rate schedule. The lights shall be owned and maintained by the Utility. Any additional costs shall be paid in accordance with the Utility's street light lease agreement.

2.5 Service Extensions

2.5(1) General

Service extensions may require an aid in construction payment by the customer. Extensions up to the point of delivery shall be owned and maintained by the Utility.

2.5(2) Nonresidential Low-Use Extensions

The Utility shall supply service where no permanent residence exists for such uses as isolated water pumps, cribs, dryers, feed lots, etc., upon payment of an aid in

construction payment equal to the total cost of installing the service. The customer will be billed for electric service at the applicable rate.

2.5(3) Temporary Service

Where service is likely to be temporary by determination of the Utility, the Utility shall supply temporary electric service upon payment of an advance aid in construction payment equal to related costs. When service facilities are removed, any aid in construction payment in excess of actual costs will be refunded. The Utility shall require a customer deposit as explained in section 3.2. The customer will be billed for electric service at the applicable rate schedule. (Exhibit 5)

2.5(4) Three-Phase Extensions

Three-phase power shall be provided at no cost to customers where revenues justify the installation of the necessary transformer bank and line extension.

Where revenues do not justify the cost of the necessary transformer bank and line extension, an aid in construction payment shall be required. It will be equal to the total cost of extending the three-phase service, minus the cost of a single-phase service, and minus 50 percent of the customer's next three years estimated electric service billings. The customer will be billed for electric service at the applicable rate schedule.

2.5(5) Underground Services

A. Apartments, Condominiums, Commercial I & Commercial II, and Industrial I & Industrial II

When a customer desires an individual underground service, the secondary service must be installed, owned and maintained at customer's expense.

The customer shall consult with the Utility prior to the planning of any underground service installation.

The Utility reserves the right to specify the size and type of underground conductor to be used, the location of the transformer or pole to which the service must be connected, the side of the pole on which the conduit is to be installed and the height to which it must be extended. (Exhibit 6)

B. Underground Service to New Residential Subdivisions

New residential subdivisions shall only be served underground. The Utility will furnish a complete underground electric system as shown in Section 2.5(5)B.(1), exclusive of items shown under Section 2.5(5)B.(2). (Exhibit 3 and 4)

(1) Utility's Responsibilities

The Utility will furnish a complete underground electric system as follows:

- a. Design the underground system using load information supplied by the developer.
- b. Furnish, install and connect primary high voltage cable system.
- c. Furnish, install and connect secondary cable from transformer or service pedestal to meter base. (See Section 2.5 (5) b(4).)
- d. Furnish and install transformers for underground services.
- e. Furnish and install secondary pedestals.
- f. Furnish meter socket or trough.
- g. Determine locations of meter socket or trough.
- h. Furnish street lighting in cooperation with developer's layout and plans on dedicated Muscatine city streets.

(2) Developer's/Customer's Responsibilities

The developer/customer will perform and/or furnish the following:

- a. As early as practical submit to Utility a plat of the development that has been approved by the proper local authorities.
- b. Furnish all easements requested by Utility. Said easements, if applicable, to be in addition to general Utility easements as shown on plat submitted.
- c. Bring development to final grade before Utility will begin construction of underground electric system.
- d. Apply for an electrical permit.
- e. Install 200 ampere service entrance including meter socket or trough (furnished by Utility), switch or switches with proper

branch switches and circuits that meet National Electrical Code specifications.

- f. Install for each dwelling a conduit (material, size, and depth to be approved by Utility) extending from the meter socket or trough into the service cable trench to such distance from the dwelling unit as may be required to clear all obstacles such as patios, driveways, sidewalks, tree roots, etc.
- g. Furnish and install underground conduits for primary and/or secondary cables under all driveways and street crossings and on nondedicated streets or private right-of-ways. The material, size and depth to be approved by the Utility.
- h. Have installation inspected and approved by the City Electrical Inspector.

(3) Ownership and Maintenance

The Utility will own, operate and maintain the new subdivision underground electric distribution system including street lights, street light poles, street light cable and services (to the customer's meter).

If any underground service requires relocation because of new construction on the property owner's premises or because the property owner desires relocation for any reason, the cost of relocation will be billed to the property owner. If an underground cable or other Utility owned equipment is damaged, the cost of repair and/or replacement will be billed to the party causing the damage.

If a Utility owned service needs replacement because of increased load, replacement will be made at Utility's expense.

(4) Winter Installation Guidelines

- a. Late year services that require excavating through deep frost (approximately 6") will have a surcharge of \$2.50 per foot to install the service providing a large trencher can be used to install the service.
- b. The customer/contractor has the option to do the excavating themselves providing it is coordinated with Muscatine Power & Water and is done per Utility direction. There would be no charge under this option.
- c. Temporary service to a permanent structure will be provided on an "at cost" basis.

C. Underground Residential Service in Areas Served by Existing Overhead Lines

Responsibility for installation, maintenance and ownership of underground service to new residences or residences being converted to underground service in areas served by existing overhead lines will be as follows (Exhibit 3):

(1) Customer's Responsibility

The customer will perform the following in accordance with City Electric Code and Utility standards:

- a. Formally request underground service with the Utility.
- b. Apply for an electrical permit.
- c. Install 200 ampere service entrance switch with proper branch circuits that meet National Electric Code specifications and City Electric Code.
- d. Furnish and install a conduit from the meter socket to the grade of the cable trench (unless underground meter trough is provided).
- e. Furnish and install riser conduit with service weather head at the pole of adequate height to connect with Utility's secondaries in accordance with the requirements of the Utility.
- f. Install the new underground cable from the secondary on the pole to the meter socket.

(2) Utility's Responsibility

The Utility will perform the following:

- a. Upon receipt of the request, a Utility representative will confer with the customer regarding the installation.
- b. Furnish required meter base and service cable to customer.
- c. Make necessary connection of new service cable to existing secondaries and meter base.

(3) Ownership and Maintenance

The Utility will own, operate and maintain the new underground service. If any underground service requires relocation because of new construction on the property owner's premises or because the property owner desires relocation for any reason, the cost of relocation will be billed to the property owner. If an underground cable or other Utility owned equipment is damaged, the cost of repair and/or replacement will be billed to the party causing the damage.

If a Utility owned service needs replacement because of increased load, replacement will be made at Utility's expense.

2.6 Meters

2.6(1) Meter Ownership and Installation

All meters will be furnished, owned, installed and removed by the Utility. Submetering and electricity sales to retail customers for the purpose of resale will not be permitted.

2.6(2) Meter Seals and Meter Tampering

Visible seals will be placed on all meters, meter enclosures, instrument transformers, and instrument transformer enclosures for the purpose of security. Breaking of these seals or tampering with meters, their associated equipment, or interconnecting wiring is prohibited. Evidence of tampering will result in a Utility investigation based upon its Program for Anti-Theft of Utility Services and may result in prosecution under the laws of the State of Iowa. If a customer is found consuming electricity so that any of the energy consumed is not registered through a meter provided by the Utility, the service will be disconnected without notice, and the consumer will be required to install, at his own expense, the necessary wiring to direct all consumption through the meter so provided.

2.6(3) Meter Locations and Accessibility

Locations of meters and metering equipment shall be designated by the Utility. No wiring dependent on the meter location shall be started until the location has been definitely assigned. Meter sockets and enclosures shall be plumb and securely mounted.

All meter installations shall have a clear frontal approach with a minimum of seven foot headroom, and a two foot clear lateral working area from any part of the meter enclosure to any obstacle. Meter will be installed between four feet and six feet six inches above finished surface grade.

2.6(4) Optional Aesthetic Cabinet Over Meter Enclosure

The following guidelines should be used when installing an optional aesthetic cabinet over a meter enclosure. These guidelines are in addition to and in no way preclude or lessen any other requirement stated in this meter section.

- A. The cabinet shall be equipped with a hinged door that exposes the entire meter enclosure.
- B. There shall be a clearance of fifteen inches from the face of the meter socket to the inside of the cabinet door when closed. There shall be a minimum clearance of twenty-four inches on both sides, the top, and bottom of the meter enclosure or enclosures.
- C. Locking of the cabinet by the customer will be permitted only if a key is provided to the Utility.

2.6(5) Meter Testing

Initial and subsequent periodic testing shall be in accordance with Muscatine Power and Water's Watt-hour Meter and Associated Equipment Inspection and Testing Program. Customers may also request a referee test pursuant to the provisions of Division Three of these service rules.

2.6(6) Customer Access to Meter Register

Where possible, customers will have continuous visual access to the meter kWh registers for the purpose of reading. If it is necessary to apply a multiplier to the register reading, the multiplier will be placed on the kWh register or meter nameplate.

2.6(7) Instrument Rated Metering

A. Underground Secondary Metering Installed on a Structure

The Utility will furnish the meter, meter housing device, associated current transformers (CTs) and secondary wire. The Utility will make all secondary connections from CTs to the meter housing device and install the meter.

For installations with load current of 1200 amps or less, the customer shall furnish and install a raintight current transformer enclosure having a suitable latch and sealing device and one inch rigid conduit with fittings necessary for a wireway between current transformer enclosure and meter housing device. Maximum length of the one inch conduit is to be fifty feet with no more than three 90 degree bends in a single pull section. Customer shall also mount the meter housing device onto the structure and CTs into their enclosure with white dot (H-1) facing line side.

For installations with load current above 1200 amps, the Utility may require the CTs be placed in a separate compartment inside the customer's switchgear. This switchgear compartment and the included bus bar must be on the incoming line side of the main disconnect and be accessible to and lockable by Muscatine Power and Water personnel. One inch rigid conduit shall be run by the customer between the switchgear CT compartment and the customer mounted meter housing device.

Customer shall furnish and install a ground rod at the meter housing device and run #4 copper wire from the ground rod to the meter housing device.

B. Underground Secondary Metering Installation on Padmount Transformer

The Utility will furnish and install the metering and associated equipment.

C. Overhead Secondary Metering Installed on a Pole

The Utility will furnish and install the metering and associated equipment.

D. Overhead Secondary Metering Installed on a Structure

The Utility will furnish the meter, the meter housing device, associated current transformers, transformer mounting device, and secondary wire. The Utility will make all secondary connections from CTs to the meter housing device and install the meter.

The customer shall furnish and install a one inch rigid conduit with fittings necessary for a wireway from the overhead current transformers to the meter housing device. The maximum length of the one inch conduit is to be fifty feet with no more than three 90 degree bends in a single pull section. Customer shall mount the meter housing device and CTs with white dot (H-1) facing the line side. Customer shall also furnish and install a ground rod at the meter housing device and run #4 copper wire from the ground rod to the meter housing device.

E. Primary Metering

The Utility will furnish and install the metering and associated equipment.

F. Primary Metering - Additional Power Source

The Utility shall furnish and install, at the customer's expense, all metering associated equipment, and enclosures.

G. Inspection

In all cases the meter will not be set until the service has been inspected and approved by the Electrical Inspector of the City of Muscatine.

2.6(8) Demand Metering

When a customer's energy usage approaches or exceeds 75 kW based on a thirty minute demand interval, a demand meter will be installed for detecting peak demand for the billing period.

2.6(9) Pulse Initiator for Customer's Optional Shedding of Nonessential Load

The Utility will, subsequent to receiving a written request and at the customer's expense, acquire and install a pulse initiating device on the provided demand meter, a weatherproof box housing an isolation relay, and interconnecting wiring between the two. All technical information on the load shedding device shall be provided to the Utility.

It shall be the customer's responsibility to furnish, install, and maintain the load shedding device, wireway, and wire between the isolation relay and load shedding device.

2.6(10) Special Metering Installations

The Utility reserves the right, at its expense, to place special meters or instruments on the premises of a customer for the purpose of special tests of all, or part, of service provided.

2.6(11) Individual Metering - Multi-Occupancy Premises

Individual metering shall be required on multi-occupancy premises, in which units are separately rented, or owned, except the Utility may provide single meters for the following:

- A. Service for central heating, cooling, water heating, or ventilation systems;
- B. Where individual metering is impractical, unreasonable or uneconomical;
- C. Where submetering or resale was permitted prior to July 12, 1966; or
- D. Where resale as an undefined part of a fixed rental or lease payment was permitted prior to January 1, 1979.

2.7 Utility's Right To Interrupt Service

If the Utility deems it necessary, the Utility may interrupt the electric service to any customer or group of customers for the purpose of making repairs, changes or improvements upon any part of the Utility's system. When practical, interruptions will be prearranged and advance notice will be given to the customer.

DIVISION THREE CUSTOMER RELATIONS

3.1 Application for Service

Application for service shall be filed at the Utility business office on a form provided by the Utility. Customer may obtain form from the Utility by calling 319-262-3424. Premises receiving service must also comply with equipment provisions of Division Two of these service rules. The application form shall include: (1) space for the applicants voluntary designation of 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 (2) that a person other than the customers may pay the customer's deposit, and (3) that the customer has an opportunity to enter into a level payment plan. The application may include other information as necessary.

As soon as practical after the approval of an application, the Utility shall supply service to the applicant in accordance with these service rules and at a rate established by the Utility for the applicant's appropriate class of service.

3.2 Deposits

A deposit intended to guarantee partial payment of bills for service may be required prior to approval of the service application. A person other than the customer may pay the deposit. 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 a requirement.

3.2(1) 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, within the last thirty-six months, established a credit history with the Utility;
 - (2) Whose twelve most recent bills from the Utility were timely paid (including one automatic forgiveness of a late payment); and
 - (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 two highest monthly billings for service during the previous twelve month period may be required of an applicant for service who does not meet the credit criteria of subparagraph "A" above.

3.2(2) 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 two highest monthly billings 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).

3.2(3) Deposit Calculation Criteria

In calculating a customer's deposit, which may be based on the maximum estimated charge for two billing periods, the amount shall be determined from the two highest meter reading periods of the previous twelve months. The maximum level of consumption so determined, may be adjusted for reasonably determinate differences in the likely level of energy consumption, including: number of persons serviced, change in the type of service; and, 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.

3.2(4) Interest on Deposits

The interest rate on deposits with the Utility shall be five percent, compounded annually. Interest so paid will accrue from the date of deposit to the date of refund or to the due date of any Utility service bill to which the deposit is applied. The date of refund is the date on which the refund or the notice of deposit refund is forwarded to the depositor's last known address.

3.2(5) Receipt for Deposit

Each person making a deposit, replacing a deposit, or supplementing a deposit whose receipt has been lost may obtain a duplicate receipt by filing a written claim at the business office, and by providing the Utility with adequate personal identification. The Utility shall keep the following records concerning the deposit:

- A. The name and address of each depositor.
- B. The amount and date of the deposit.
- C. Each transaction concerning the deposit.

3.2(6) 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 one year after termination of service will be transferred to the state in accordance with Chapter 556, Code of Iowa.

3.2(7) Deposit Refund

A. Refund for Prompt Payment

A deposit shall be refunded after twelve consecutive months of prompt payment (which includes eleven timely payments and one automatic forgiveness of late payment). The records of a customer not eligible for a deposit refund on the first deposit anniversary date, will be reviewed on subsequent anniversary dates to determine refund eligibility.

B. Refund for Termination of Service

Upon termination of service the deposit, plus accrued interest (if any) less any unpaid bill for utilities shall be reimbursed to the person who made the deposit.

3.3 Billing Information

The Utility shall read the meters at monthly intervals on dates designated by the Utility. The consumer will be permitted to supply the meter readings on a card supplied by the Utility, but the meter must be read at least once every year by the Utility. Whenever the Utility is unable to read the meter or a card with the reading is not returned from the consumer, an estimated reading will be used. A meter reading is not to be estimated for more than three consecutive months.

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 (Energy Adjustment Clause).

Specific billing information will only be made available to the customer or others as designated by the customer.

3.3(1) Billing Form

The Utility, at its option, shall either place the following information on the billing form, or shall advise the customer on the bill form, that the following information can be obtained by contacting the Utility's business office:

- A. The actual or estimated meter readings at the beginning and end of the billing period.
- B. The date of the meter readings.
- C. The number and kind of units metered.
- D. The identification of the applicable rate schedule.
- E. The account balance brought forward and amount of each charge for rate-schedule-priced Utility service, sales tax, other charges, late payment charge, and total amount currently due.
- F. The last date for timely payment shall be clearly shown and shall not be less than twenty days after the bill is rendered.
- G. A distinct marking to identify an estimated bill or meter reading.
- H. A distinct marking to identify a minimum bill, and/or facility charge, which may be provided for in the rate schedule for each service class and will apply to any billing period during which service remains connected.
- I. Any conversions 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 automatic adjustments (Energy Adjustment Clause) and amount of sales tax adjustments used in determining the bill.

3.3(2) Where Payable

Bills shall be paid by mail, or by direct payment at the Utility business office, or by direct deposit through a Muscatine bank, or by depositing the payment in the designated receptacles at the Muscatine banks.

3.3(3) 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 U.S. mail with postage prepaid or when delivered by the Utility to the last known address of the party responsible for payment. Bill payments received by the Utility after the due date shall be for the amount stated on the bill which shall include a late payment penalty of 1.5 percent 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 posting to the next bill.

The date of delinquency for all residential customers and for other customers whose consumption is less than 3,000 kWh per month, shall be changeable by entering into the level payment plan as described in Section 3.3(6).

No collection fee will be levied in addition to this late payment charge. This does not prohibit cost justified charges for disconnection and reconnection of service.

3.3(4) Partial Payments

If a customer makes a partial payment in a timely manner, and does not designate the service or product being paid for, the payment shall be credited pro rata between the bill for Utility services and related taxes. The late payment charge shall apply only to the Utility service bill outstanding on the date of delinquency.

3.3(5) Returned Checks

A service charge of \$20.00 shall be assessed to any customer whose check is returned or not honored by the bank on which it is drawn. The service charge shall be in addition to the late payment penalty if the check is not made good prior to the delinquent date of the bill. If two or more checks are dishonored within a six month period, the Utility may require future payments by cash, cashier's check, or money order.

3.3(6) Level Payment Plan

All residential customers (or other customers whose consumption is less than 3,000 kWh per month) may select a level payment plan. The plan shall:

- A. Be offered when customer initially requests service.
- B. 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.
- C. Provide for entry into the level payment plan any time during the calendar year. The month of entry shall be that customer's anniversary month.
- D. Have level payments equal to the sum of estimated charges divided by the number of standard billing intervals, all for the next twelve consecutive months.

E. Carry forward any account balance on the anniversary of the plan which shall be added to the estimated charges in determining the level payment amount for the next year.

F. Have the level payment amount computed at the time of entry into the plan. It may be recomputed on each anniversary date, when requested by the customer, or whenever price and consumption, alone or in combination result in a new estimate differing by ten percent or more than 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.

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

H. Regardless of the account balance for a customer whose payment is delinquent, the plan shall be subject to the same procedures as other accounts on a late payment penalty on the level payment amount and to other procedures for collection and termination of service.

3.3(7) Reasonable Agreement to Pay

A residential customer disconnected or about to be disconnected who is unable to pay a delinquent bill in full will be offered an opportunity to enter into a reasonable agreement to pay that bill unless the customer is in default upon an agreement.

The Utility may require the customer to provide confirmation of financial difficulty such as an acknowledgment from the Department of Human Services or another agency. Reasonableness is to be determined by considering the current household income of the customer, the customer's ability to pay, the size of the bill, the customer's payment history, the amount of time and the reasons why the bill had been outstanding, and any special circumstances creating extreme hardships within the household.

The agreement may require the customer to bring the account to a current status by paying specific amounts at scheduled times. The Utility shall offer customers the option of spreading payments evenly over at least a twelve month period.

However, if a customer has retained service from November 1 through April 1 but has been in default of a payment agreement, the Utility may offer the customer a second payment agreement that will divide the past-due amount into equal monthly payments with the final payment due by the fifteenth day of the next October.

The agreement shall also include provision for payment of the current account and may provide for payment of the current account pursuant to the terms of a level payment plan. The Utility may consider prior defaults on similar agreements in determining the reasonableness of a payment agreement.

If the Utility intends to refuse a payment agreement offered by a customer, it must provide a written explanation to the customer within thirty days of mailing of the initial disconnect notice. A customer may protest the Utility's refusal of the offered agreement by making payment as provided for therein and by filing a written complaint, including a copy of the Utility's refusal, with the IUB within ten days after written refusal of the agreement by the Utility.

The customer who has been in default of a payment arrangement from November 1 to April 1 may be required to pay current bills based on a budget estimate of the customer's actual usage weather-normalized during the prior twelve month period, or based on projected usage if historical usage data is not available.

A signed copy of the agreement shall be provided to the customer.

A reasonable agreement may be amended at the discretion of the Utility upon request of the customer. Default of the agreement by the customer renders the customer subject to disconnection in accordance with proper procedures except that the twelve day notice provision does not apply.

3.3(8) Minimum Bill

The minimum bill provided for in the rate schedule for each class of service will apply to any billing period during which the service remains connected.

3.3(9) Adjustment of Bills After Issuance (Meter Error)

A. Customer Requested Meter Tests - Utility Tests

In addition to regular periodic meter testing, the customer may request a meter accuracy test of the meter servicing their account, providing that such tests shall not be made more frequently than once in an eighteen month period. The customer or the customer's representatives may be present when the meter is tested and the results shall be reported to the customer within ten days. If the test finds the meter accurate within the limits accepted by the Utility according to its meter inspection and testing program, the customer may be billed for the cost of the test, or \$30.00, whichever is less.

B. Customer Requested Meter Tests - Referee Tests

A customer may forward a written request for a referee test of his meter to the IUB providing that such test be not more frequently than one in eighteen months. The request shall be accompanied by a \$30.00 check or money order made payable to the Utility. Within five days after receipt of the request and deposit, the

IUB will notify the Utility, who will then within thirty days, schedule a testing date. If the meter is found to be out of accuracy by more than two percent based on a weighted average, the deposit will be returned to the customer and a billing adjustment shall be made as required by the IUB.

C. Meter Error and Determination of Adjustment

Whenever a meter installation is found upon a test to have an error of more than two percent based on a weighted average for kWh registration, or more than 1.5 percent error for demand accumulation, an adjustment shall be made pursuant to paragraphs D and E following.

D. Amount of Adjustment

The amount of the adjustment shall be calculated on the basis that the metering equipment should be at zero error with respect to the testing equipment used to make the test. For kWh metering, the average accuracy shall be the arithmetic average of the percent registration at ten percent of rated test current and at 100 percent of rated test current, with giving the 100 percent of rated test current registration a weight of four and the ten percent of rated test current registration a weight of one.

E. Recalculation of Bills

Recalculation of bills shall be on the basis of actual monthly consumption, except that if service has been measured by self-contained single-phase meters or three-wire network meters and involves no billing other than for kilowatt-hours, the recalculation of bills may be based on the average monthly consumption determined from the most recent thirty-six months consumption data.

When the average error cannot be determined by test because of failure of part or all of the metering equipment, it shall be permissible to use the registration of check metering installation, if any, or to estimate the quantity of energy consumed on the basis of available data. The customer shall be advised of the failure and of the basis for the estimate of quantity billed. The periods of error shall be used as defined in immediately following subparagraphs (1) and (2).

(1) Over-Registration

If the date when over-registration began can be determined, such date shall be the starting point for determination of the amount of adjustment. If the date when over-registration began cannot be determined, it shall be assumed that the error has existed for the time since July 4, 1963, one-half the time since the meter was in-

stalled, or one-half time elapsed since the last previous meter installation tests; whichever is shortest.

The over-registration due to creep shall be calculated by timing the rate of creeping and assuming that the creeping affected the registration of the meter for twenty-five percent of the time since the most recent of either metering installation or the last previous test.

(2) Under-Registration

If the date when under-registration began can be determined, such date shall be the starting point for determination of the amount of adjustment except that billing adjustment shall be limited to the preceding six months unless authorized by the Governing Body. If the date when under-registration began cannot be determined, it shall be assumed that the error has existed for one-half the time since the meter was installed, or one-half the time elapsed since the last previous meter installation test, whichever was more recent. The adjustment shall be limited to the preceding six months unless authorized by the Governing Body.

The under-registration due to creep shall be calculated by timing the rate of creeping and assuming that this creeping affected the registration for twenty-five percent of the time since the more recent of either metering installation or the last previous test, except that the billing adjustment shall be limited to the preceding six months unless authorized by the Governing Body. When a meter is found not to register, the Utility shall issue an estimated bill.

F. Refunds for Meter Error

If bills recalculated due to meter error indicate that \$1.00 or more is due an existing customer or \$2.00 or more is due a person no longer a customer of the Utility, a refund will be given for the full amount of the difference between the amount paid and the amount recalculated. Refunds will be made to the two most recent customers (if applicable) who received service through the metering installation found to be in error. In the case of a previous customer who is no longer a customer of the Utility, a notice of the amount subject to refund shall be mailed to that previous customer at the last known address. Upon notification by the previous customer, the Utility shall make the refunds within three months. Refunds will be complete within six months following the date of the meter installation test.

G. Back Billing for Meter Error

If bills recalculated due to meter error indicate that \$10.00 or more is due, the customer and former customer (if applicable) shall be back billed. A back billing

shall be rendered no later than six months following the date of the meter installation test. Customers rendered hardships due to back billing shall be offered reasonable agreements to pay. The Utility reserves the right to forego back billings which it determines are not cost effective.

3.3(10) Adjustments of Bills After Issuance (No Meter Error)

A. Overcharges Not Due to Meter Error

When a customer has been overcharged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of the metering installation, or other similar reasons, the amount of the overcharge shall be adjusted, refunded, or credited to the customer.

B. Undercharges Not Due to Meter Error

When a customer has been undercharged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of the metering installation, or other similar reasons the bill(s) shall be recalculated back to a period not to exceed ten years. If the recalculated bills exceed \$10.00 the customer shall be back billed for the amount due. Back billing will be completed within six months of the discovery of the error. If the back billing creates customer hardship, a reasonable agreement to pay shall be offered. The Utility reserves the right to forego back billings which it determines are not cost effective.

C. Accidental Wastage - Customer Side

When an accidental ground is found on the customer's equipment, the Utility shall estimate the customer's normal usage for each billing period during which the ground is reasonably believed to have existed, not to exceed two months. The bill for each such period shall be recomputed, treating the amount of above-normal energy consumption as "lost energy". Lost energy shall be billed at the lowest rate on the customer's rate schedule and the total difference will be credited to the customer's account.

3.4 Disconnections, Denials and Reconnections (Not For Nonpayment)

3.4(1) Customer Initiated (Voluntary)

A. Temporary Disconnections and Reconnections - Meter (Voluntary)

The Utility may, upon reasonable notice by a customer, make temporary disconnections for the customer's convenience. The customer may be required to pay a fee for disconnection and for reconnection.

B. Temporary Disconnections and Reconnections - Service Drop (Voluntary)

If a customer requests service disconnected temporarily the following charges and rules will apply:

1. The temporary disconnection shall not be for a period longer than twelve months. If longer than twelve months, the customer shall be considered to have terminated service. Prior to reconnection, the service shall be inspected and approved by the City Electrical Inspector.
2. The customer shall pay for disconnections and reconnections at the applicable rates for labor, equipment, and material.
3. All amounts, due or past due, which the customer owes the Utility shall have been paid in full.
4. These charges are in addition to any charges which may be made for installation of service equipment for temporary service governed by Division Two of these service rules.

C. Permanent Disconnections (Voluntary)

A customer requesting permanent disconnection shall provide a minimum notice time to the Utility of one business day. With proper notification no charges shall be made for permanent disconnections.

3.4(2) Utility Initiated (Involuntary)

A. Just Cause for Discontinuance or Denial (Involuntary)

The Utility reserves the right to refuse or discontinue service for any of the reasons listed below, subject to the provisions of this section and other provisions of these service rules. Unless otherwise stated, the customer shall be given written notice at least twelve days prior to discontinuance of service and, in the event the customer has failed to comply with a rule of the Utility, he or she shall be given at least twelve days from written notification, to comply with the rules. Except for reasons given in (1) through (4) below, or disconnection at the customer's request, no service shall be discontinued unless the Utility is prepared to reconnect the service within twenty-four hours. A reconnection fee shall be charged when the discontinuance results from an act or omission on the part of the customer. Reasons for refusal or discontinuance of service are:

- (1) Without notice in the event of a condition determined by the Utility to be hazardous.

- (2) Without notice in the event of customer use of equipment in such a manner as to adversely affect the Utility's equipment or the Utility's service to others.
- (3) Without notice in the event of tampering with the equipment furnished and owned by the Utility. For the purposes of this subrule, a broken or absent meter seal alone shall not constitute tampering.
- (4) Without notice in the event of unauthorized use or resale of the Utility's service.
- (5) For violation of or noncompliance with the Utility's service rules.
- (6) For failure of the customer or prospective customer to fulfill his contractual obligations for service or facilities.
- (7) For failure of the customer or prospective customer to permit the Utility reasonable access to its equipment.
- (8) For failure of the customer or prospective customer to furnish service equipment, permits, certifications, or rights-of-way specified by the Utility as a condition of receiving service.

B. Written Notice - Disconnection or Denial for Just Cause (Involuntary)

Any written notice mailed to a customer pursuant to these service rules will set forth the reason or reasons for the pending disconnection or denial, and the final date by which the account is to be settled or specific action taken. If more than one reason is specified, the days of notice for the causes shall be concurrent. The notice shall be considered rendered to the customer when deposited in the U.S. mail with postage prepaid. If delivery is by other than U.S. mail, the notice shall be considered rendered when delivered to the last known address of the person responsible for payment of the service. The final date shall not be less than twelve days after notice has been rendered.

C. Disconnection and Reconnection Fee (Involuntary - Other Than Nonpayment)

For any disconnection or reconnection from a disconnection or denial of service pursuant to these service rules, the customer shall pay for disconnections and reconnections at the applicable rates for labor, equipment, and material.

3.5 Nonpayment of Bill or Deposit - Discontinuance or Denial

The Utility reserves the authority to discontinue or deny service for nonpayment of the bill or deposit, subject to the provisions of these service rules.

3.5(1) Reconnection Fee for Nonpayment

For any reconnection from a disconnection or denial of service pursuant to these service rules, there shall be a reconnection service charge of not less than \$25.00 during normal working hours.

Before service is restored, all bills shall be paid and/or the customer shall make satisfactory payment arrangements at the business office of the Utility.

3.5(2) Time of Discontinuance for Nonpayment

A discontinuance of residential service under this section shall at a minimum not take place on a weekend, a holiday or after 2:00 p.m. unless the Utility is prepared to reconnect service the same day.

In the case of a customer who has entered into a reasonable payment agreement, disconnection may not take place where electricity is used as the only source of space heating or to control or operate the only space heating equipment at the residence, on any day when the National Weather Service forecast for the following twenty-four hours covering the area in which the residence is located includes a forecast that the temperature will go below twenty degrees Fahrenheit.

In any case where the Utility has posted a disconnect notice but is precluded from disconnecting service because of a National Weather Service forecast, the Utility may immediately proceed with appropriate disconnection procedures, without further notice, when the temperature in the area where the residence is located rises to above twenty degrees, unless the customer has paid in full the past due amount or is entitled to postponement of disconnection under some other provision.

3.5(3) Procedures for Discontinuance for Nonpayment

Service shall not be discontinued for nonpayment of bill or deposit unless the Utility has:

A. Reasonable Attempt

Made a reasonable attempt to effect collection.

B. Written Notice

Given written notice to the customer (and, where applicable, the person or agency designated by the customer to receive such notice) that service will be discontinued if the account is not settled within twelve calendar days from the date of notice.

The notice will include a toll-free or collect telephone number where a representative of the Utility qualified to provide additional information about the disconnection can be reached. The notice will also include the date rendered, the date ac-

tion will be taken, and the amount due. Also included shall be the IUB's standard "Customer Rights and Remedies to Avoid Disconnection." The notice shall be considered rendered to the customer when deposited in the U.S. mail with postage prepaid.

C. Personal Contact

In the case of a residential customer, the Utility has made a diligent attempt to contact the customer by telephone or in person to inform the customer or person responsible for payment, of the pending discontinuance and his rights and remedies. During the period November 1 to April 1, if the attempt fails, the premises shall be posted with a notice informing the customer of the same information at least one day prior to discontinuance of service.

D. Multi-Occupancy Premises

During the period November 1 to April 1, if contact attempts are unsuccessful, and if the Utility knows that the disconnection will affect occupants of residential units leased from the customer (either commercial, large power or residential), the premises of any building known by the Utility to contain residential units must be posted, at least two days prior to the disconnection, with notice informing any occupants of the date when service will be disconnected and the reasons therefore.

E. Landlord Notification

In the cases of a residential customer, if attempted contact is unsuccessful, and the Utility has reason to believe that the residential customer is a renter, the landlord, if known, shall be contacted to determine if the customer is still in occupancy, and if not, his present location. The landlord shall also be informed of the date when services may be disconnected.

F. Twelve Day Notification (Disputed Bill)

Give the customer (of any class) a reasonable opportunity of not less than twelve days from the date on which the disconnection notice was mailed, to dispute the reason for the disconnection, in accordance with procedures described in the IUB's standard "Customer Rights and Remedies to Avoid Disconnection."

3.5(4) Postponement of Discontinuance for Reasons of Customer's Health

Discontinuance of service to a residential customer shall be postponed if the discontinuance presents an especial danger to the health of the customer or any permanent resident of the premises. An especial danger to health is indicated if one appears to be seriously impaired and may, because of mental or physical problems, be unable to manage his own resources, carry out activities of daily living or protect oneself from neglect or hazardous situations without assistance from others. Indicators of an espe-

cial danger to health include but are not limited to: age, infirmity, or mental incapacitation; serious illness; physical disability, including blindness and limited mobility; and any other factual circumstances which indicate a severe or hazardous health situation.

At the request of the Utility, the customer shall provide a verification of the special danger to health by a physician or a public health official. The verification shall include the name of the person endangered, a statement that he or she is a resident of the premises in question, the name, business address, and telephone number of the certifying party, the nature of the health danger and approximately how long the danger will continue. Initial verification by the verifying party may be by telephone if written verification is forwarded to the Utility within five days.

Verification shall postpone disconnection for thirty days; however, the postponement may be extended by a renewal of the verification. In the event service is terminated within fourteen days prior to verification of illness by or for a qualifying resident, service shall be restored to that residence if a proper verification is thereafter made in accordance with the foregoing provisions. The customer must enter into a reasonable agreement for the retirement of the unpaid balance of the account within the first thirty days and keep the current account paid during the period the unpaid balance is to be retired.

3.5(5) Abnormal Electric Consumption

A customer who is subject to disconnection for nonpayment of bill, and who has electric consumption which appears to the customer to be abnormally high, may request the Utility to provide assistance in identifying the factors contributing to this usage pattern and to suggest remedial measures. The Utility will provide such assistance by discussing patterns of electric usage which may be readily identifiable, suggesting that an energy audit be conducted, and identifying sources of energy conservation information and financial assistance which may be available to the customer.

3.5(6) Winter Disconnect Moratorium

During the period of November 1 to April 1 a customer shall not be disconnected if the following occurs:

A. The customer applies to a local community action agency prior to the disconnection date, and informs the Utility of such action, either in person, or through the local community action agency for low income home energy assistance program or the weatherization assistance program. There shall be no disconnection of service for thirty days from the date of application to allow the local community action agency time to certify that the person is or is not eligible for either program.

B. If the local community action agency certifies the customer is eligible within 30 days of the date of the customer application, disconnection may not occur

prior to April 1. If the local community action agency does not certify eligibility, disconnection procedures may again proceed, except that the twelve day waiting period shall not apply. All other procedures are in effect.

C. During this time period, the customer which is certified as eligible is encouraged, but not required, to enter into a reasonable agreement to pay or a level payment plan in order to avoid disconnection after April 1.

3.6 Insufficient Reasons for Denying Service

The following shall not constitute sufficient cause for refusal of service to a present or prospective customer:

A. Delinquency in payment for service by a previous occupant of the premises to be served.

B. Failure to pay for merchandise purchased from the Utility.

C. Failure to pay for a different type or class of public utility service.

D. Failure to pay the bill of another customer as guarantor thereof.

E. Failure to pay back bills rendered for payment of under registration of a meter.

F. Failure to pay bill adjustment resulting from error on the part of the Utility.

G. Failure of a residential customer to pay a deposit during the period November 1 through April 1 for the location at which he or she has been receiving service.

H. Failure of a disconnected customer to pay the full amount due for past service if financial difficulty is confirmed and the customer is willing to enter into a reasonable agreement to pay the delinquent amount.

I. No disconnection may take place from November 1 through April 1 for a resident who is head of a household and who has been certified to the Utility by the local community action agency as being eligible for either the low income home energy assistance program or weatherization assistance program.

3.7 Service Limitation Policy

Reserved

3.8 Service Calls

The Utility will make every possible effort to provide continuity of electric service, but the Utility does not guarantee continuity of electric service and shall not be held liable for interruption of electric service.

3.8(1) Charged Service Calls

Customers may be billed for the cost of services not the responsibility of the Utility as follows:

A. Residential Customers

For the relocation of Utility facilities at the customers request, an advance payment equal to the total estimated cost of the relocation shall be made. The customer shall be responsible for the actual cost of the relocation.

B. Commercial I, Commercial II, Industrial I and Industrial II

1. For a service call where the trouble is found to be on the customer's equipment.
2. For a requested relocation of facilities belonging to the customer or Utility, a payment equal to the total estimated cost shall be required in advance of any construction. The customer shall be responsible for the actual cost of the relocation.

3.8(2) Noncharged Service Calls--Underground Facilities Locating

The customer shall not be billed for service calls or equipment which is the responsibility of the Utility.

The Utility will locate underground service facilities owned by the Utility without charge. The request should be made at least two business days in advance and can be done so by calling Iowa One Call at 1-800-292-8989. Every effort to correctly locate the underground facilities will be made by the Utility, but the Utility cannot guarantee its location nor be held liable.

3.9 Customer Communications

3.9(1) Utility Customer Representative

A Utility representative charged with customer communication must give his name to the customer, whether communication is in person or by telephone. The representative must have immediate access to current detailed information concerning the customer's account and previous contact with the Utility and shall be properly qualified and instructed in the screening and prompt handling of complaints.

3.9(2) Telephone Procedure

Telephone number 319-263-2631 is monitored continuously for the handling of problems or complaints of an emergency nature and is staffed during business hours, Monday through Friday, to handle routine business questions and other communications.

3.9(3) Complaint Procedure

Complaints concerning the charges, practices, facilities or service of the Utility shall be investigated promptly and thoroughly. The Utility shall keep records of written complaints sufficient to enable review and analysis of its procedures and actions. Customers shall be asked to submit complaints in writing.

The complaint shall include the following information:

1. Name(s) of complainant.
2. Address(es) of complainant.
3. Telephone number(s) of complainant.
4. Nature of the complaint.
5. Relief sought.

Initial contact by a customer regarding a complaint shall be made with a customer service representative of the Utility. The complaint may be pursued with the appropriate Manager, the appropriate Director, and the General Manager, in that order, if the customer is not satisfied with the handling of the complaint.

A written complaint may be filed with the Chairperson of the Governing Body if the customer is not satisfied with the General Manager's handling of the complaint. If the Chairperson believes the customer's complaint warrants further attention, the Chairperson may place the complaint on the agenda of the next regularly scheduled Board meeting for the ultimate resolution of the complaint by the Governing Body.

A customer who is unable to travel need not appear before any Utility official described above in person to explain the nature of their complaint. They may do so by telephone or in some other mutually agreeable fashion.

Complaints involving policies or actions of the Utility that are regulated by the IUB may also be filed with the IUB in accordance with applicable regulations.

3.10 Customer Obligations

Acceptance of service shall obligate a customer to all conditions of service imposed by the requirements of the Utility, these service rules and the rules of the IUB.

3.10(1)Use of Utility's Facilities by Customers and Others

A. Utility Facilities

The customer or an agent shall not, without written consent from the Utility, use any of the poles, structures or other facilities of the Utility for fastening thereto, support or for any other purpose whatsoever, nor shall the customer or an agent locate anything in such proximity to the aforesaid facilities of the Utility so as to cause, or be likely to cause, interference with service, or a dangerous condition in connection therewith.

B. Nonliability of Utility

The Utility assumes no liability for unauthorized attachments, equipment or appurtenances whether attached by individuals or companies and upon becoming aware of such attachments will remove same after 60 days notification. In case Utility personnel become aware of illegally attached lines, equipment or appurtenances which are of a hazardous nature to life, limb or property, such attachments will be removed immediately by the Utility without notification.

3.10(2)Customer Liability for Damages or Alterations

A. Customer Liability

The customer shall be held responsible for all damage to, or loss of property of the Utility located upon his premises unless the damage or loss is due to the negligence of the Utility or by any act or omission on the part of the Utility or its authorized representative.

B. Protection of Utility's Facilities on Customer's Premises

All meters, transformers, wires and other equipment installed by the Utility at its own expense are the facilities of the Utility. The customer shall protect said facilities of the Utility on the customer's premises and shall not interfere with or alter, or permit interference with or alteration of the Utility facilities except by duly authorized representatives of the Utility.

Under no circumstances or conditions shall any person not a representative of the Utility connect to or disconnect from any meter, or disturb any wiring between the meter and the service wires from the Utility distribution system after the meter has been installed. All electric services shall be connected or disconnected only by an authorized representative of the Utility.

3.10(3)Customer Equipment

A. Customer Electrical Equipment Standards

Except for facilities defined in Section 2.1(1) of these service rules as a responsibility of the Utility, the customer shall be responsible for all wiring and electrical equipment on his premises. The installation and maintenance of customer facilities shall be consistent with applicable standards imposed by these divisions of the service rules dealing with alternate energy production, special conditions of service, applicable engineering practices and any other applicable statutory or administrative law. Location of the meter loop and meter socket shall be at the discretion of the Utility, with consideration given to the customer's convenience.

B. Utility Not Liable

No inspection or approval by the Utility of a customer's compliance with Division Two shall be construed to impose any duty or liability on the Utility, but shall be considered solely for the purpose of ensuring protection of the Utility's property and for ensuring the continuity of service to customers of the Utility.

3.10(4)Customer's Premises Subject to Access

The customer and owner shall grant the Utility, without charge, right-of-way over and on the premises on which equipment and structures of the Utility are located. Access to the equipment and structures shall be granted to the Utility for installation, inspection, testing, repair and other functions necessary for the maintenance of satisfactory service.

DIVISION FOUR
COGENERATION AND SMALL POWER PRODUCTION

4.1 Objective

A. This division is designed to comply with the Public Utility Regulatory Policies Act of 1978 (PURPA) and all state and federal regulatory agencies.

B. It establishes criteria for the safe, effective, and reliable parallel operation of non-utility owned generation facilities within the Utility service area. Utility and customer planning engineers shall be guided by this division when planning an interconnection between the Utility's transmission or distribution system and customer-owned generation.

4.2 Definitions

A. As used in this division: "Utility" means Muscatine Power and Water.

B. As used in this division: "Qualifying Facility" means a cogeneration facility or small power production facility which is a certified qualifying facility under 18 CFR Part 292, Subpart B, and which is not a qualifying alternate energy production facility or qualifying small hydro facility. Both a "Qualifying Cogeneration Facility" and "Qualifying Small Power Production Facility" are referred to as "QF" in this division.

C. As used in this division: "Qualifying Alternate Energy Production Facility" means any of the following:

1. A solar, wind turbine, waste management, resource recovery, refuse derived fuel, or wood-burning facility, not to exceed 80 megawatts capacity.
2. Land, systems, buildings, or improvements that are located at the project site and are necessary or convenient to the construction, completion, or operation of the facility; or
3. Transmission or distribution facilities necessary to conduct the energy produced by the facility to the purchasing Utility.

D. As used in this division: "Qualifying Small Hydro Facility" means the following:

1. A hydroelectric facility at a dam, not to exceed 80 megawatts capacity.
2. Land, systems, buildings, or improvements that are located at the project site and are necessary or convenient to the construction, completion, or operation of the facility; or
3. Transmission or distribution facilities necessary to conduct the energy produced by the facility to the purchasing Utility.

E. "Qualifying Alternate Energy Production Facility" and "Qualifying Small Hydro Facility" (QAEPFQSHF) are referred to jointly or severally as "QA" in this division.

4.3 Applicability

A. This division applies to all qualifying facilities, qualifying alternate energy production facilities, or qualifying small hydro facilities within the Utility service area which have obtained certification from the Federal Energy Regulatory Commission under 18 CFR Part 292, Subpart B, and satisfy the required safety and reliability standards set herein.

B. If not a qualifying facility, qualifying alternate energy production facility, or qualifying small hydro facility then the non-utility generating facility shall be isolated and prohibited from interconnecting and/or generating in parallel with the Utility's electric system.

4.4 Obligations of the Utility

A. The Utility shall purchase energy and capacity from a QF or QA, in accordance with Section 4.8 of this division.

B. The Utility shall sell energy and capacity to any QF or QA in accordance with Section 4.8 of this division.

C. The Utility shall make interconnections with the QF or QA as may be necessary to accomplish purchases and sales in accordance with Section 4.7 of this division.

D. The Utility shall own and maintain all interconnection equipment.

4.5 Obligations of the Qualifying Facility, Qualifying Alternate Energy Production Facility, or Qualifying Small Hydro Facility

A. A QF or QA desiring to interconnect with the Utility shall be obligated to pay any interconnection costs including but not limited to:

1. Materials used to make interconnection (wire, insulators, crimpets, etc.)
2. Protective equipment such as protective relays, circuit breaker, cutouts, switches, etc.
3. Transformers
4. Metering and monitoring devices
5. Engineering and system studies
6. Installation labor

B. The Utility shall be reimbursed by the QF or QA for the interconnection costs at the time the costs are incurred. Should the QF or QA request reimbursement be made over a reasonable period of time and good cause is shown, such request may be granted by the Board of Water and Light Trustees; provided, however, that no other customers of the Utility bear any of the costs of interconnection.

C. A QF or QA shall be required to provide energy to the Utility during system emergencies only to the extent provided by agreement between the QF or QA and the Utility; or as ordered under section 202(c) of the Federal Power Act.

1. During any system emergency, the Utility may immediately discontinue purchases from a QF or QA if such purchases would contribute to the emergency or hamper restoration of power.

D. Each QF or QA shall be required to interconnect to the Utility's distribution or transmission system in parallel unless such connection is considered by the Utility not to be safe or feasible.

4.6 Standards for Interconnection, Safety and Operating Reliability

A. Acceptable Standards

1. A QF or QA shall meet the standards as determined by the Utility. The Utility shall use current American National Standards Institute (ANSI), Iowa Administrative Code (IAC), National Electric Code (NEC), and National Electric Safety Code (NESC) publications for guidelines in determining these standards. Applicable publications

include but are not limited to the following:

- a. General Requirements for Synchronous Machines, ANSI C50.10. Rule 8.1 "Maximum allowable deviation factor," is modified to read: "The deviation factor of the open-circuit terminal voltage wave and the current wave at all loads shall not exceed 0.1. Deviation factor shall be as defined in ANSI C42.100."
- b. Requirements for Salient Pole Synchronous Generators and Condensers, ANSI C50.12.
- c. Requirements for Cylindrical-Rotor Synchronous Generators, ANSI C50.13.
- d. Requirements for Combustion Gas Turbine Drive Cylindrical-Rotor Synchronous Generators, ANSI C50.14.
- e. Iowa Electrical Safety Code, as defined in IAC (199) Chapter 25.
- f. National Electric Code, ANSI/NFPA No. 70.
- g. National Electric Safety Code, ANSI C2.

References to the publications listed in "a" through "g" above shall be deemed to be the latest edition or revision.

2. A QF or QA shall submit to the Utility, data on the manufacturer, type of device, and output current wave form (at full load) and the output voltage wave form (at no load and at full load) for review and approval prior to interconnection.
3. For those facilities which are of such design as to not be subject to the standards noted in Section 4.6. STANDARDS FOR INTERCONNECTION, SAFETY AND OPERATING RELIABILITY, A. Acceptable Standards, 1., 2., and 3. above, data on the manufacturer, type of device, and output current wave form (at full load) and output voltage wave form (at no load and at full load) shall be submitted to the Utility for review and approval prior to interconnection.

4.7 Interconnection Facilities

A. The Utility's approvals described herein shall not be construed as a warranty of safety, durability, or reliability of the QF's or QA's generation, service fa-

cilities, control devices, or protective devices. The QF or QA shall be solely responsible for protecting its equipment in such a manner that faults or disturbances do not cause damage to the QF's or QA's equipment.

B. Interconnections between QF or QA and the Utility shall be equipped with devices, as set forth below, to protect either system from abnormalities or component failures that may occur within the QF, QA, or the Utility system. Inclusion of the following protective systems shall be considered as a minimum standard of accepted good practice unless otherwise specified by the Utility:

1. The QF or QA shall furnish and install a manually operated isolating switch with visible break for the purpose of isolating its generator from the Utility's system at a location specified by the Utility, accessible by only Utility personnel, and capable of being locked in both the open and closed position by Utility personnel only.
2. The interconnection shall include overcurrent devices to automatically disconnect the QF or QA generator from the Utility system at all current levels exceeding the full-load current rating of the generator.
3. The QF or QA must be equipped with automatic disconnection for loss of utility-supplied voltage, reverse current relaying, and other protective equipment as determined by the Utility.
4. A QF or QA that produces a terminal voltage prior to paralleling with the Utility shall provide automatic synchronism-check devices to prevent paralleling out of synchronization with the Utility system.

C. Determination of Interconnection Requirements

1. Initial Planning Data

- a. The QF or QA shall submit an "APPLICATION FOR PARALLEL OPERATION WITH UTILITIES SERVICES" which shall include a preliminary one-line electrical diagram and specified information regarding the electrical and physical characteristics of QF or QA's proposed generating facilities and equipment. Manufacturer's certified test data shall be supplied when received.
- b. The Utility and QF or QA shall initially determine the anticipated mode of operation of the generation facility, including the expected forced outage rate, hourly pattern of generation, and use of the generation facility's capacity and energy.

2. Interconnection Plan

- a. The interconnection facilities, including substation equipment, metering and protective devices, shall be planned to meet Utility operating and reliability criteria and shall be in conformance with the Utility's current revision of the "CO-GENERATION INTERCONNECTION REQUIREMENTS," the Utility's engineering and construction standards and practices, the National Electric Safety Code and any other applicable codes. The Utility shall prepare an interconnection plan for the (Utility/QF or QA) facilities based on studies of planned operating modes. The cost of interconnection studies shall be borne by QF or QA regardless of whether the studies are prepared by the Utility or a consultant.

3. Considerations in Development of the Interconnection Plan

- a. The plan for the (Utility/QF or QA) interconnection shall at a minimum, include consideration of the following design factors for effective and reliable operation under all reasonably expected system conditions:

- (1) Personnel and public safety
- (2) Supervisory control and data acquisition
- (3) Telemetry and metering
- (4) Normal and emergency communications
- (5) Voltage control and power factor
- (6) Short circuit conditions
- (7) Transient stability limitations
- (8) Capability to handle normal and emergency loading
- (9) Protective relaying and automatic control equipment
- (10) Generation control
- (11) Governor response
- (12) Facility maintenance coordination
- (13) Normal operating practices and procedures
- (14) Synchronizing facilities
- (15) System grounding
- (16) Emergency operating practices and procedures
- (17) Off-normal frequency and voltage operation
- (18) QF or QA backup requirements
- (19) Access to facilities
- (20) Isolation power transformer
- (21) Interconnection voltage level

4. QF or QA Substation Design

- a. This section deals with specific requirements and design of QF's or QA's substation and related equipment.

(1) Utility Review

Design of QF's or QA's facilities shall be reviewed and approved in writing by the Utility for suitability for safe, compatible, and reliable synchronous operation which will not reduce or adversely affect the quality of electric service being provided to the Utility's customers.

(2) Notification

The Utility shall be notified in writing by QF or QA at least 30 days before initial energization and start-up testing of QF's or QA's generating facility so that the Utility can inspect such facility's equipment and devices associated with the interconnection that might affect the Utility's operation or adversely affect the quality of service the Utility provides to its customers.

(3) Review of Modifications

QF or QA shall submit for review and approval in writing by the Utility prior to actual modification, any change in QF's or QA's generating facility that might affect performance of the interconnection.

(4) Isolating Switch

In addition to the Utility controlled isolating switch specified previously, the QF or QA should furnish and install a manually operated isolating switch with visible break for the purpose of isolating QF's or QA's generator from the Utility's system at a location specified by QF or QA, accessible and controlled by QF or QA personnel, and capable of being locked in the open position by QF or QA personnel. Both the QF or QA and the Utility shall have access to this interconnection isolating switch at all times.

(5) Power Transformer

The QF's or QA's generator shall be isolated from the Utility's system by a power transformer that is connected in such a way as to isolate the Utility's zero-

sequence network from that of the generator's. The Utility shall specify the transformer connection on the Utility's side of the transformer.

(6) Essential Equipment

The Utility shall have first rights to acquire QF's or QA's generating facility as may be required for continued operation of the integrated system should QF or QA cease operation of its generating facility.

(7) Interconnection Voltage

Voltage at the point of interconnection shall be specified by the Utility.

(8) Safety and Reliability

The Utility shall have the right to inspect all facilities in QF's or QA's substation for employee safety and reliability of service.

5. Utility Interconnection Facilities

- a. Any necessary additions or modifications to the Utility's system necessitated by the interconnection shall be made in conformance with current Utility engineering and construction standards and practices. Cost of any required additions or modification shall be borne by QF or QA.
- b. The Utility shall specify, own, operate, and maintain intertie devices provided by the QF or QA, such as protective relays, metering, circuit breakers, switched, etc.

6. Capacity Requirements/Transfer Limits

The capacity requirements of the interconnecting equipment shall be specified by the Utility in the interconnection plan. Depending on the size of the generation facility and intended use, there may or may not be a need to provide full transfer capability during various abnormal system conditions. The capability of the interconnection facilities, due to equipment loading, stability, voltage or other reasons, shall be determined by the Utility and communicated to the QF or QA. Expected normal voltage levels and rea-

sonable deviations shall be specified by the Utility. Contingency capability shall be consistent with normal Utility design criteria.

7. Protective Relaying Systems

The QF's or QA's protective relaying system shall be consistent with the Utility's relaying practices for ready determination, isolation, communication, and correction of problems. Design of QF's or QA's protective scheme shall be reviewed and approved in writing by the Utility for consistency with the Utility's relaying practices. Safety to employees and public, limiting damage to equipment, controlling spread of interruption, and simplicity of design shall be principles followed in the design of the protective relaying system.

D. QF or QA Power Plant

1. The QF's or QA's power plant shall meet all national, state, and local construction and safety codes. Design of the power plant shall be subject to review and approval in writing by the Utility as to suitability for safe, compatible, and reliable synchronous operation with the Utility's system so as to not reduce nor adversely impact the quality of service being provided by the Utility to its customers.

- a. Load Following Capability

The intended use of QF's or QA's generation facility capacity and energy will determine the need for QF or QA to provide load-following capability of the plant. QF's or QA's generation facility may be included in the Utility's control area provided suitable interconnection metering and control methods are employed by both systems.

- b. Prescheduled Dispatch

Depending on the intended use and/or contractual obligations, the QF's or QA's generation facility shall be able to follow a prescheduled loading pattern set by the Utility.

- c. Fuel Supply and Storage Capabilities

The intended use and/or contractual obligations of QF's or QA's generation facility will determine the required firmness of capacity and energy. Since the fuel supply is a major factor in the firmness of the capacity and energy of the facility, these factors will be considered and reviewed by the Utility. After reviewing the QF's or QA's fuel supply, backup storage

or a supplementary fuel supply may be requested of QF or QA by the Utility.

d. Voltage and Reactive Control

The QF or QA shall provide suitable automatic voltage regulating equipment compatible with the Utility's system for controlling the voltage specified by the Utility. The limits of voltage variation and required reactive capability of the unit shall be specified by the Utility. If the QF or QA generator is unable to maintain the scheduled voltage, QF or QA shall provide other reactive control devices necessary to control the voltage level.

e. Emergency Availability

(1) Depending on the intended use and/or contractual obligations, the QF's or QA's generation facility shall be able during emergencies to perform in a manner similar to the Utility's resources by:

- (a) Quickly coming on-line, and/or
- (b) Quickly adjusting generation output, and/or
- (c) Remaining in operation and connected to the Utility's system.
- (d) Quickly coming off-line where QF or QA generation would contribute to overloading facilities.

(2) QF or QA shall provide energy and capacity to the Utility during a system emergency to the extent it is required to do so by agreement with the Utility or as ordered under state or federal authority. The Utility may discontinue purchase from and sales to QF or QA during a system emergency when purchase would contribute to the emergency and when discontinuance of sales is on a non-discriminatory basis.

f. Emergency Disconnection

In the event that the Utility or its customers experience problems of a type that could be caused by the presence of alternating currents or voltages with a frequency deviating excessively from 60hertz, i.e. harmonic distortion, the Utility shall be permitted to open and lock the interconnection switch pending a complete investigation of the problem. Where the Utility believes the condition creates a hazard to

the public or to property, the disconnection may be made without prior notice. However, the Utility shall notify the operator of the QF or QA by written notice and where possible, verbal notice as soon as practicable after the disconnection.

g. Governor Response

The QF or QA shall verify the ability of its generating unit to respond automatically to normal upsets in the frequency of the Utility's system and contribute its part in maintaining the stability of the interconnected system. The Utility may prescribe certain overspeed protection or stabilizing device of QF's or QA's generation facility.

h. Protective Relaying Systems

The protective relaying system of the QF's or QA's power plant shall be sufficient to prevent or limit equipment damage for contingencies both within the plant and external to the plant on the Utility's system. Underfrequency relaying, if utilized, shall be set as specified by the Utility.

i. Capacity Requirements and Limitations

Depending on the intended use and/or contractual obligations, the QF's or QA's power plant equipment shall provide for the expected mode of operation without undue maintenance or life reduction. Controls within QF's or QA's power plant shall be provided to permit all reasonably expected modes of operation.

j. Maintenance Requirements

(1) The QF's or QA's power plant shall be designed to permit safe and routine or emergency maintenance to all components. Where intended use and/or contractual obligations of capacity and energy requires comparable reliability of supply to that of the Utility's equipment, redundant facilities may need to be provided.

(2) QF or QA shall furnish to the Utility a long-term preventive maintenance program for each major item of equipment in the generation power plant which reflects planned outages for inspection, repair, maintenance, and overhaul.

- (3) QF or QA shall furnish to the Utility its annual protective relay preventive maintenance program and schedule. The Utility shall witness the calibration and testing of protective relays associated with QF's or QA's generation and interconnection facilities annually.
- (4) Scheduled outages of the QF or QA facilities shall be agreed to annually in advance by both parties.

k. Inspections

- (1) The QF or QA should adopt a program of inspection of the generator and its appurtenances.
- (2) As contractually agreed, representatives of the Utility shall have access at all reasonable hours to specified interconnection equipment for inspection and testing purposes.

l. Forced Outage Rate

If the QF's or QA's generating facility is to be used to provide capacity and energy to the Utility, the generation facility shall be capable of operating with a forced outage rate comparable to that of the Utility's equipment. The QF or QA shall attempt to meet or exceed the agreed upon forced outage rate by making modifications, if necessary.

m. Harmonics

QF's or QA's generation shall not exceed the Utility's specifications for harmonic content.

E. Information and Data Exchange

It is important that the planned mode of operation of QF's or QA's generation facility, the planned mode of operation of the Utility's facilities, and the problems of operation be easily communicated between the Utility and QF or QA. Depending on the intended use and/or contractual obligations, requirements for communication equipment for routine and emergency operations shall be included in the interconnection plan.

1. Communications

Communications equipment shall be provided for normal and

emergency voice and data communication between QF's or QA's power plant operation personnel and the Utility's system operations personnel. Backup communication facilities shall also be provided to assure adequate communications during failure of primary communication equipment.

2. Telemetry/Metering

Telemetry/metering shall be specified in the interconnection plan which will assure accurate and timely recording of interchange flows. The Utility shall install and maintain the telemetry/metering equipment. The QF or QA shall reimburse the Utility for all installation and maintenance costs.

3. Reporting Requirements

Routine reporting requirements, such as voltage level, line flows, amperes, unit loading, etc., shall be developed and procedures established before the interconnection is established between QF or QA and the Utility.

4.8 Rates for Purchase - QF's and QA's

A. Rates for Purchase from QF

Rates for purchase of electrical power from a QF shall be determined by the Utility in accordance with requirements established by federal regulations. In the case of facilities with a design capacity of 100 kilowatts or less, the Utility shall adopt standard rates of purchase.

B. Rates for Purchase from a QA

Rates for purchase of electrical power from a QA shall be determined by the Utility in accordance with requirements established by State and federal regulations.

4.9 Contract

A. Terms

1. QF or QA shall sign an Electric Service Contract (Contract) provided by the Utility and, except as otherwise provided in the Contract, after one (1) year from date of Contract, or as otherwise ordered by the Utilities Division of the Iowa Department of Commerce, either party may terminate the Contract on one year advanced written notice. Should the QF or QA terminate the Contract, the costs of removal of the interconnection facilities shall be

borne by the QF or QA.

2. Contracts offered pursuant to this section may contain provisions and stipulations acceptable in the practice of contract law, and not inconsistent with the lawful rules or orders of the Utilities Division of the Iowa Department of Commerce. A negotiated Contract shall be established pursuant to this division, and applicable state and federal regulations, prior to establishing interconnection between the QF or QA and the Utility.

B. Contract Negotiation

1. Items to be considered during contract negotiations will include, but are not limited to the following:

- a. Backup requirements for energy and capacity
- b. Wheeling losses
- c. Excess facilities charges
- d. Rights to lease or purchase
- e. Incentives
- f. Damages
- g. Insurance
- h. Protective relaying
- i. Indemnity
- j. Fuel supply and storage capabilities
- k. Firmness of energy and capacity
1. Reserved capacity
- m. Metering
- n. Emergency availability
- o. Maintenance program and scheduling
- p. Reporting requirements
- q. Rates:
 - (1) Backup Power
 - (2) Maintenance Power
 - (3) Supplemental Power
 - (4) Facilities Use

MUSCATINE POWER AND WATER
ELECTRIC SERVICE RULES
EXHIBITS

Exhibit 1

TYPICAL 200 AMP TWO STORY INSTALLATION

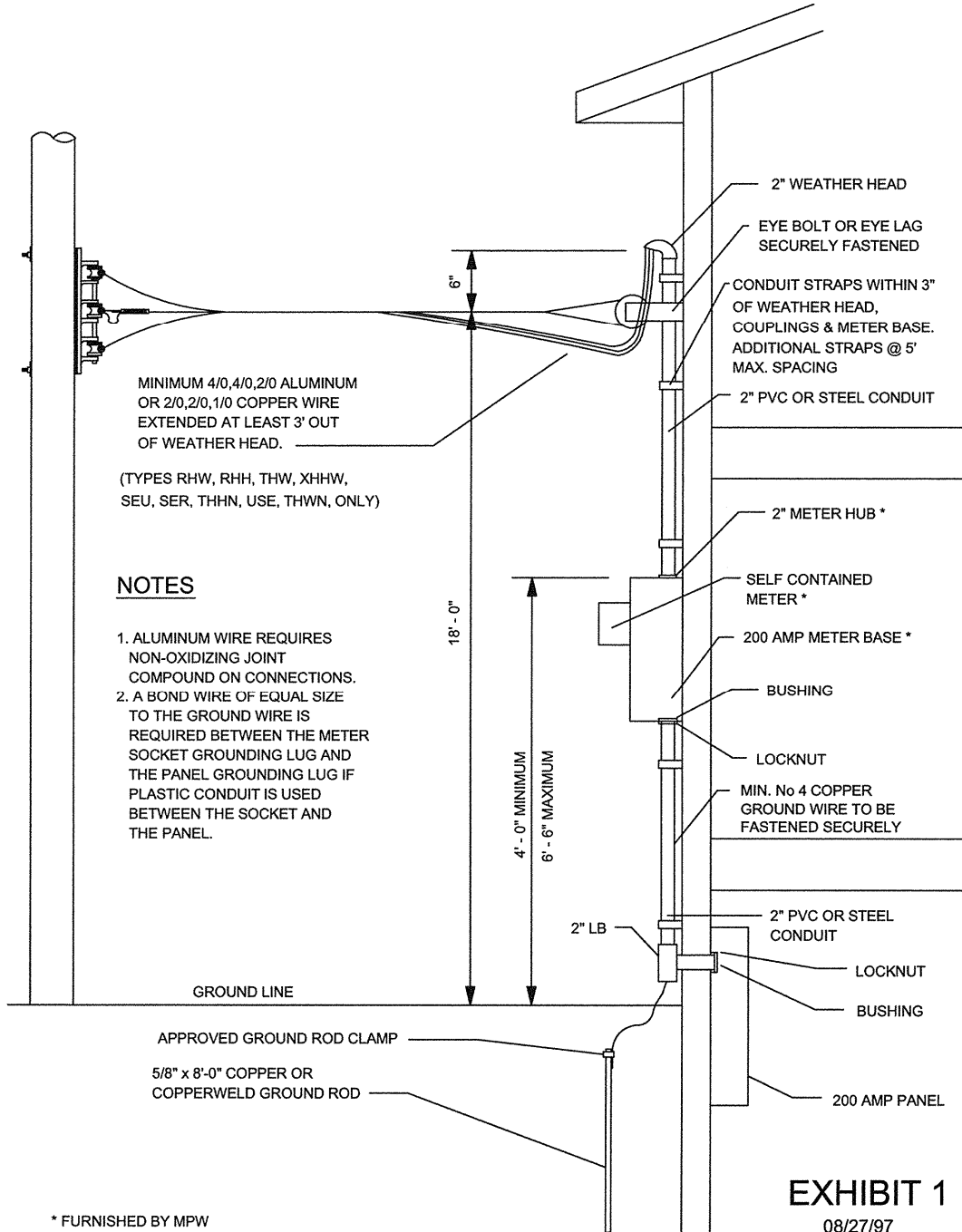
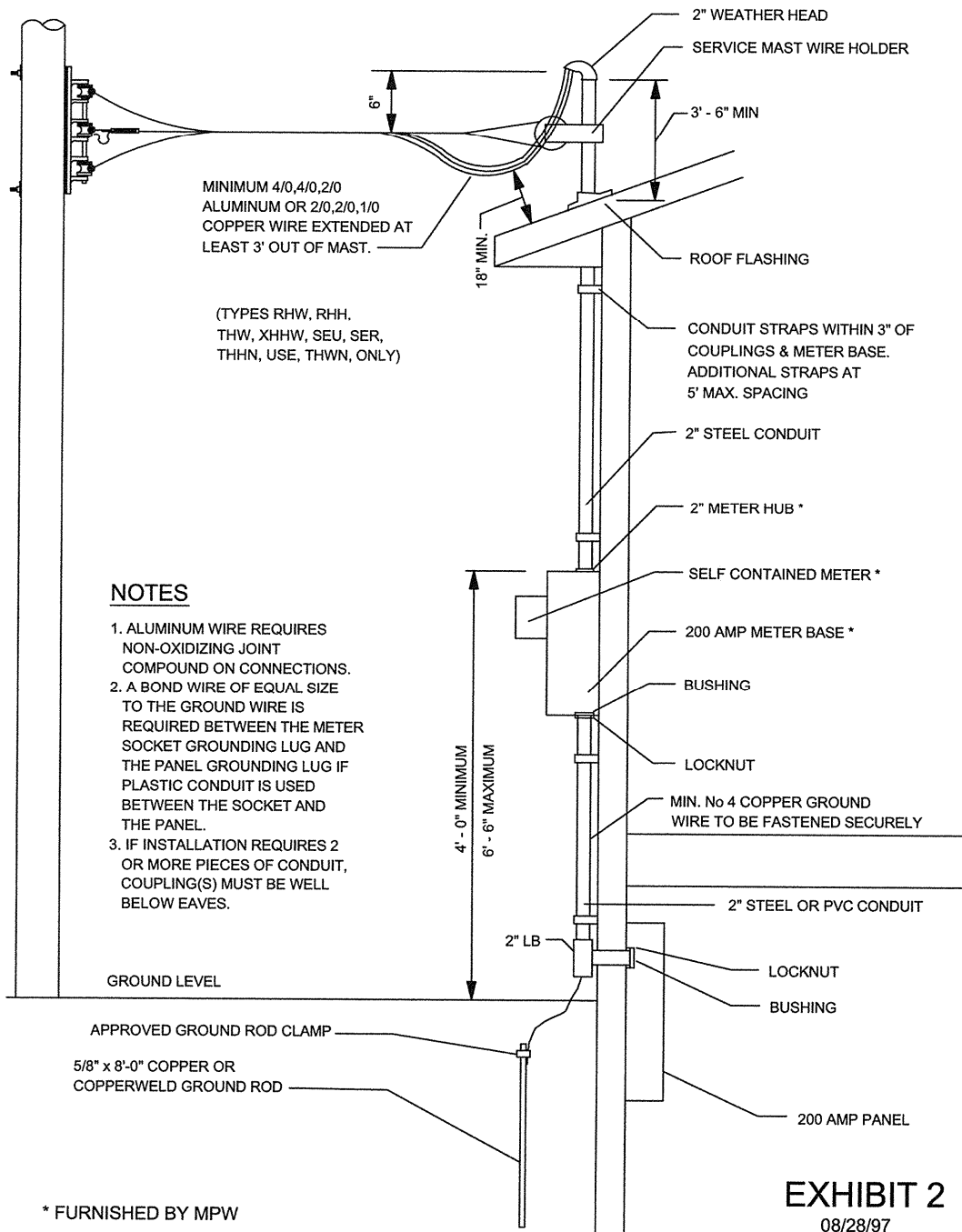


EXHIBIT 1
08/27/97

Exhibit 2

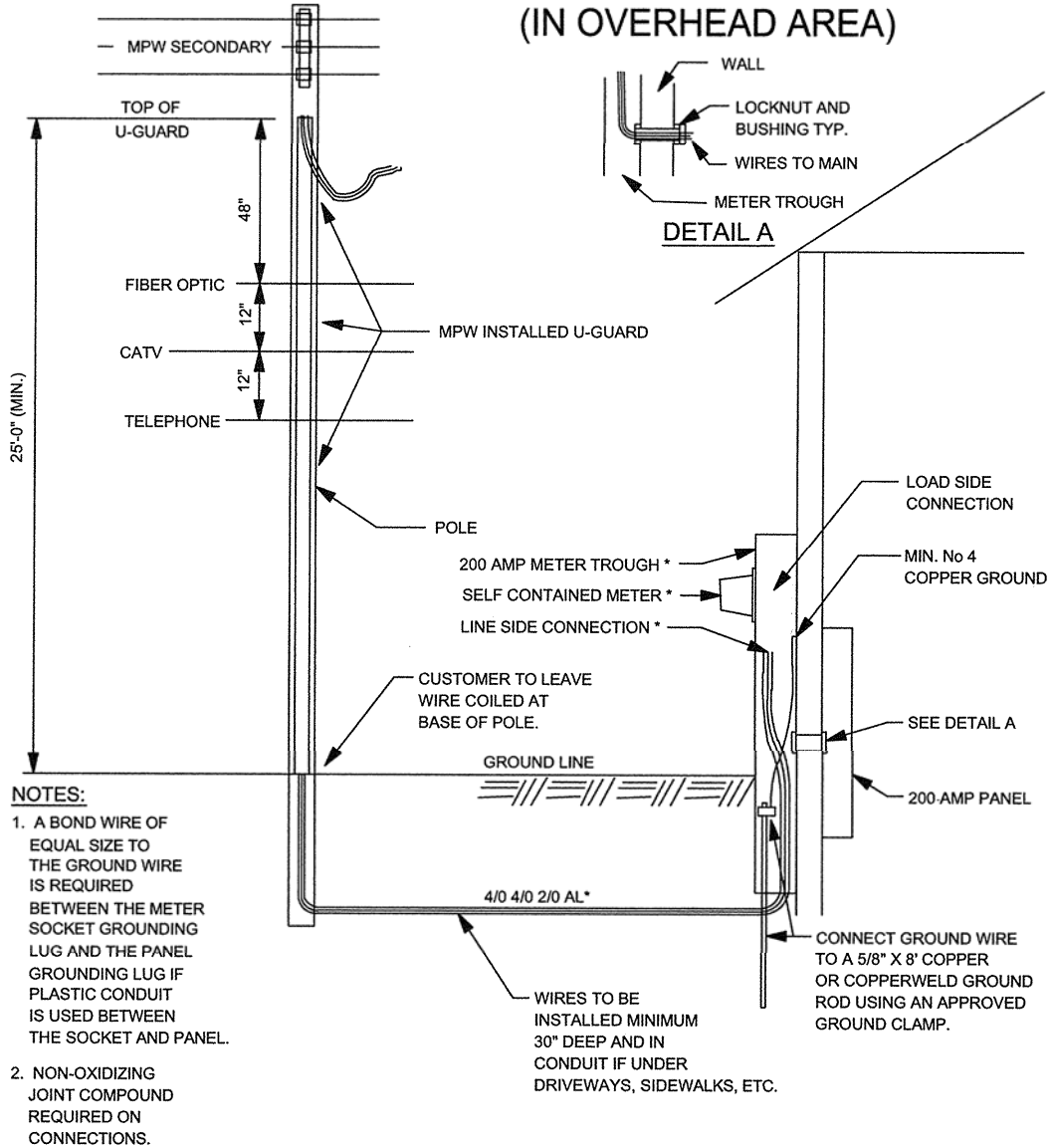
TYPICAL 200 AMP SINGLE OR 1 & 1/2 STORY INSTALLATION



* FURNISHED BY MPW

Exhibit 3

TYPICAL 200-AMP UNDERGROUND SERVICE INSTALLATION (IN OVERHEAD AREA)



SERVICE SIZE	MINIMUM WIRE SIZE		PVC OR STEEL CONDUIT SIZE		METER SOCKET	BREAKER OR FUSE SIZE
	COPPER	ALUMINUM	COPPER CONDUCTOR	ALUMINUM CONDUCTOR		
200 AMP	No. 2/0	No. 4/0	2"	2"	200 AMP	200 AMP

* FURNISHED BY MP&W

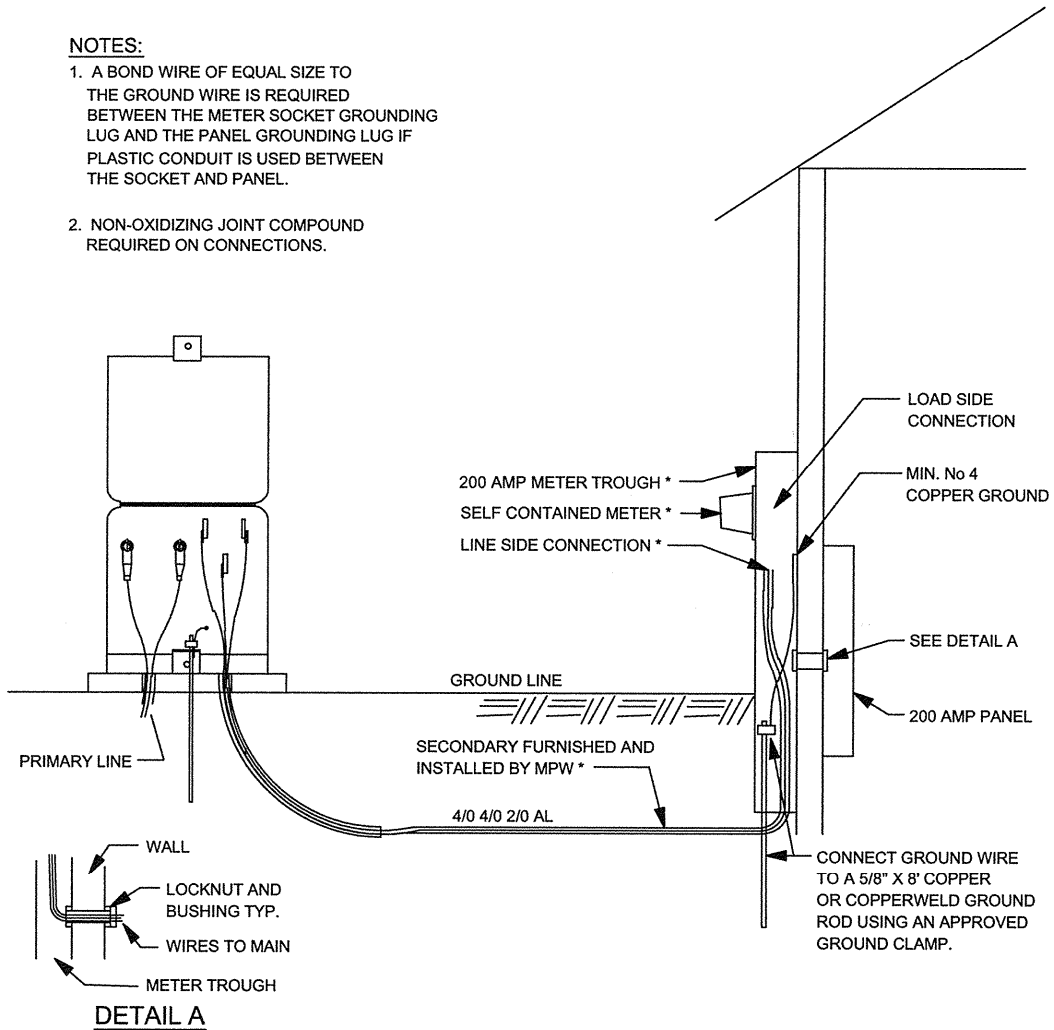
EXHIBIT 3
07/05/2000

Exhibit 4

TYPICAL 200 AMP UNDERGROUND SERVICE INSTALLATION (IN UNDERGROUND AREA)

NOTES:

1. A BOND WIRE OF EQUAL SIZE TO THE GROUND WIRE IS REQUIRED BETWEEN THE METER SOCKET GROUNDING LUG AND THE PANEL GROUNDING LUG IF PLASTIC CONDUIT IS USED BETWEEN THE SOCKET AND PANEL.
2. NON-OXIDIZING JOINT COMPOUND REQUIRED ON CONNECTIONS.



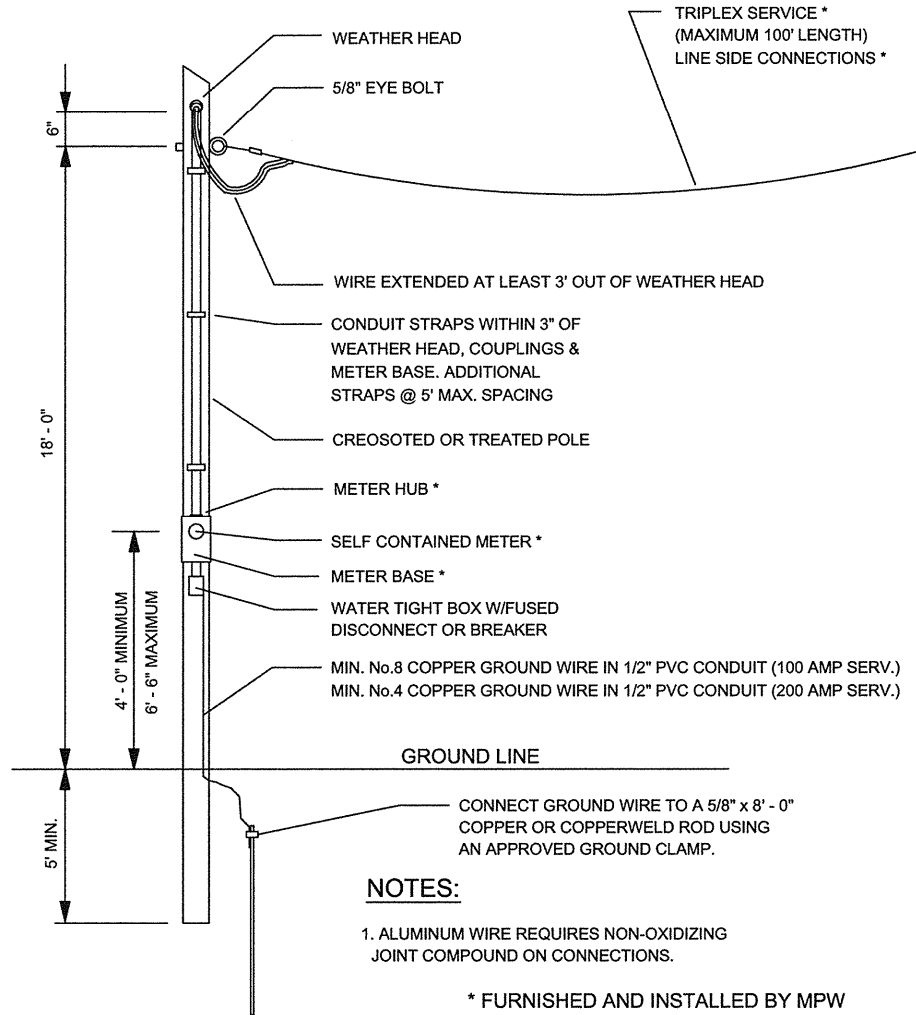
SERVICE SIZE	MINIMUM WIRE SIZE		PVC OR STEEL CONDUIT SIZE		METER SOCKET	BREAKER OR FUSE SIZE
	COPPER	ALUMINUM	COPPER CONDUCTOR	ALUMINUM CONDUCTOR		
200 AMP	No. 2/0	No. 4/0	2"	2"	200 AMP	200 AMP

* FURNISHED BY MPW

EXHIBIT 4
08/28/97

Exhibit 5

TYPICAL CUSTOMER SERVICE POLE



SERVICE SIZE	MINIMUM WIRE SIZE		PVC OR STEEL CONDUIT SIZE		METER SOCKET	BREAKER OR FUSE SIZE
	COPPER	ALUMINUM	COPPER CONDUCTOR	ALUMINUM CONDUCTOR		
60 AMP	No. 4	APPROVED EQUAL TO No. 4 CU.	1 1/4"	1 1/4"	100 AMP	60 AMP
100 AMP	No. 3	APPROVED EQUAL TO No. 3 CU.	1 1/4"	1 1/4"	100 AMP	100 AMP
200 AMP	No. 2/0	No. 4/0	2"	2"	200 AMP	200 AMP

EXHIBIT 5

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Exhibit 6

TYPICAL 200 AMP MULTI-GANG SOCKETS

FURNISHED BY MPW (MULTI-GANG SOCKET)

1	2	3	4	5	6
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MAXIMUM CONDUCTOR LUG SIZE

	2	3	4	5	6
LINE	600 KCMIL OR 250 KCMIL PARALLEL	600 KCMIL OR 250 KCMIL PARALLEL	600 KCMIL OR 250 KCMIL PARALLEL	600 KCMIL OR 250 KCMIL PARALLEL	600 KCMIL OR 250 KCMIL PARALLEL
LOAD	250 MCM	250 MCM	250 MCM	250 MCM	250 MCM

LUGS ARE TIN PLATED FOR COPPER OR ALUMINUM

LINE SIDE

MINIMUM REQUIRED CONDUCTOR SIZE

	2	3	4	5	6
COPPER	350 KCMIL OR	350 KCMIL OR	PARALLEL 4/0 OR	PARALLEL 4/0 OR	PARALLEL 250 KCMIL OR
ALUMINUM	APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL

LOAD SIDE

MINIMUM REQUIRED CONDUCTOR SIZE

COPPER	2/0
ALUMINUM	APPROVED EQUAL

NOTE:

NEUTRAL CAN BE REDUCED TWO WIRE SIZES, GROUND WIRE TO BE MINIMUM 1/0 COPPER ON ALL MULTI-GANG SOCKETS.

EXHIBIT 6

11-27-91

Exhibit 7

TYPICAL MOBILE HOME 200 AMP METER WITH DISCONNECT SWITCH

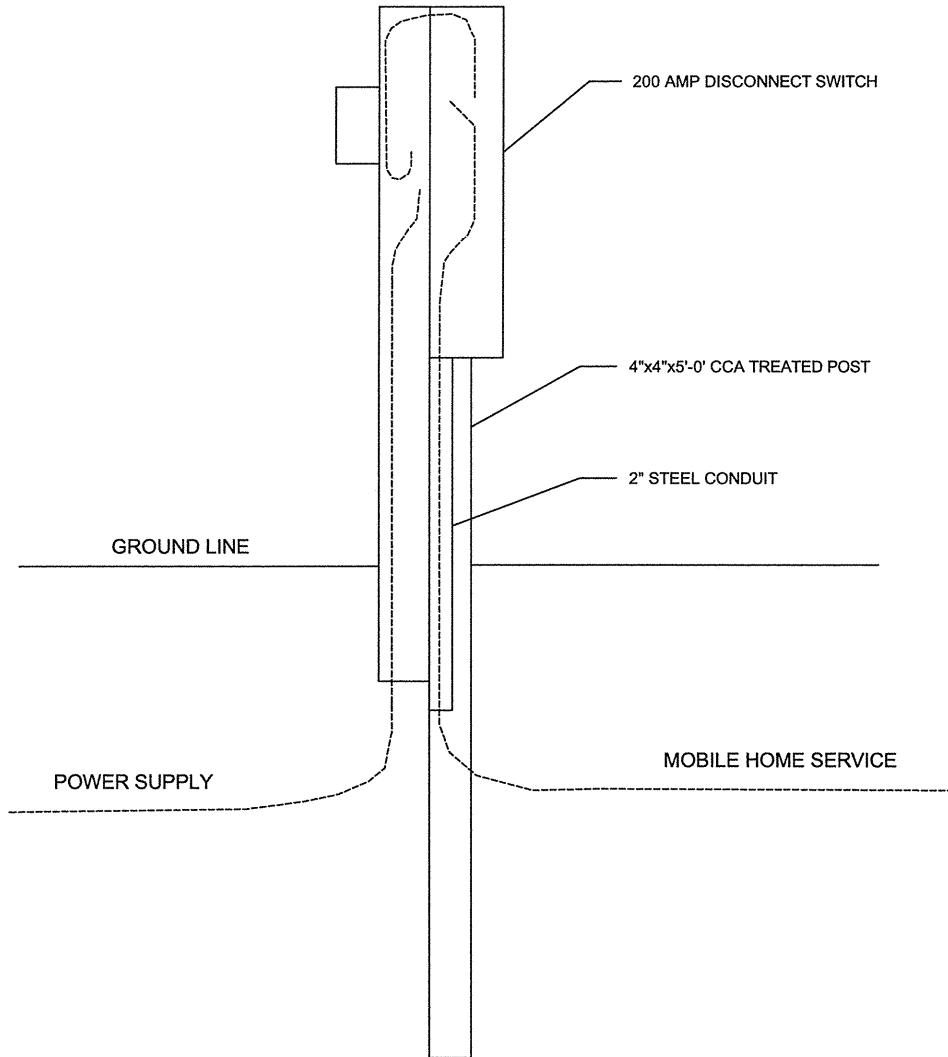


EXHIBIT 7

11-27-91