

**Public Service Commission of Wisconsin**

**NEW GLARUS LIGHT AND WATER WORKS**

**ELECTRIC RULES**

GENERAL SERVICE AND EXTENSION RULES  
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**RATE FILE**

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Schedule No. X-1

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Amendment No. 50

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101 CONTRACT PROVISIONS

101.1 Term of Contract

All agreements for service shall be for a period of one year unless otherwise specified in the contract. Contracts are automatically renewed at the end of their term under conditions stated in the contract.

No agent or employee of the utility shall have the power to, or shall amend, modify, alter, or waive any of the rates or rules of the utility or bind the utility by making any representation not incorporated in the contract.

Contracts shall not be transferred unless authorized by the utility; new occupants of premises previously receiving service must make official application to the utility before commencing the use of service.

Customers who have been receiving service must notify the utility when discontinuing service; otherwise, they will be liable for the use of the service by their successors should said successors refuse to pay.

101.2 Definitions and Classification of Customers

An electric customer or unit of service shall consist of any contiguous aggregation of space or area occupied for a distinct purpose such as a residence, apartment, flat, store, farm, office, factory, etc., which is equipped with one or more fixtures for rendering service separate and distinct from other users. The public portions of buildings, such as hallways, toilets, etc., may be treated separately depending on the requirements.

Unless otherwise defined, the ultimate use of energy purchased by the customer(s) determines the rate schedule applicable to their installation. Electric customers in general may be classified as follows:

- Residential Customers
- General Service Customers
- Power Service Customers
- Public Street and Highway Lighting Customers
- Miscellaneous Customers

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101.2 Definition and Classification of Customers (continued)

101.2a Residential Customers

A residential customer is defined to include each separate house, apartment, flat or other living quarters occupied by a person or persons constituting a distinct household and using energy for general household purposes. Lighting use may be extended to include the use of energy for lighting the land and buildings which are adjacent to, connected with, and used exclusively by the residence being served.

101.2b General Service Customers

A general service customer is defined to include each separate business enterprise, occupation or institution, taking service through a single meter, occupying for its exclusive use any unit or units of space such as an entire building, entire floor, suite of rooms or a single room, and using energy for general purposes as the schedule of rates applicable to the particular installation may permit.

101.2c Power Service Customers

A power service customer is defined to include each residence, separate business enterprise or institution occupying for its exclusive use, any unit or units of space, such as an entire building, entire floor, suite of rooms or a single room, and using energy for driving motors or other electrical loads larger than permitted on the utility's other rate schedules.

101.2d Public Street and Highway Lighting Customers

A public street or highway lighting customer is defined to include governmental agencies that take service for the purpose of lighting public streets, highways or traffic signs.

101.2e Miscellaneous Customers

Customers using electric service for purposes not included in the above classifications are defined as miscellaneous customers.







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103 DEFINITION OF DISTRIBUTION AND SERVICE FACILITIES

103.1 Overhead Service Drop

The overhead service drop is the overhead wire between the last pole or other aerial support of the distribution system and the point of attachment to the customer's service entrance equipment. It is normally located over the customer's property.

103.2 Underground Service Lateral

The underground service lateral is the underground service wire between the distribution system, including any risers at a pole or other structure, and the service entrance equipment. It is normally located on the customer's property.

103.3 Distribution Facilities

All primary and secondary voltage wire or cable and its supports, trenches, connection equipment, enclosures, and control equipment which is used to extend the distribution system from existing facilities to a point of connection with the service facilities. The cost of right-of-way preparation and restoration to the original condition, where appropriate, shall be included in the cost of distribution facilities.

103.4 Underground Service Extension

Consists of an underground service lateral and necessary distribution line, if any. In no case shall it consist of separate segments of underground construction separated by overhead construction. The length of each underground service extension shall be the length of the cable route from the beginning of the trench to the point of termination at the applicant's service facilities.

103.5 Service Entrance Equipment

Consists of the meter socket and related overhead masthead or conduit for underground service. This equipment is provided by the customer and is generally located on or in the customer's building.

103.6 Service Facilities

The service facilities include the standard transformer, standard overhead service drop or standard underground service lateral and standard meter.





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106.4 Right-of-way For Extensions

106.4a Overhead Facilities

The applicant(s) for service shall furnish right-of-way easements and permits with clearing rights, without cost to the utility adequate for the line extensions necessary to serve them and along a route approved by the utility. Clearing shall either:

- (1.) Be done by the applicant(s); or
- (2.) Be done by the utility. In this case, the applicant shall, in advance of the clearing work, make a contribution to the utility in an amount equal to the utility's estimate of the cost thereof. Such a contribution shall be nonrefundable, except that after completion of the extension the utility will determine the actual cost of clearing work, recompute the contribution required, and will refund the excess, if any, of the contribution over that required as based on such actual cost.

106.4b Underground Facilities

The applicant(s) shall secure for the utility, without cost to the utility, such easements as the utility may require for the installation, maintenance or replacement of the underground lateral and necessary distribution line extension.

The applicant shall inform the utility of any known or expected underground obstructions within the cable routes on their property (septic tanks, drainage tile, etc.). Any earth fill added to bring the cable route to final grade prior to the underground construction shall not contain large rocks, boulders, debris or rubbish.

In the event of future changes in grade levels by the customer that would materially change the depth of cover over underground conductors, or affect transformer locations, the landowner shall notify the utility in advance of grading, and shall pay the utility its cost of moving or replacing its equipment to accommodate the change in grade. Such charge will also be made for changes in buildings, structures, foundations, walls, or other obstructions.

106.5 Construction Standards and Facilities Provided by Utility

The utility shall provide safe, reliable service with extensions that conform, to the extent possible, to each of the following standards:

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106.5 Construction Standards and Facilities Provided by Utility (continued)

- (1.) Route: The utility shall make the extension over the most direct route that is the least expensive and least environmentally degrading. The customer shall provide or shall be responsible for the cost of all right-of-way easements, and permits necessary for the utility to install, maintain or replace distribution facilities. The customer shall either clear and grade such property or pay the utility to clear and grade such property. The customer is responsible for the cost of restoration of the property after the utility has completed installation and backfilling where applicable.
  
- (2.) Design: The utility shall design and install facilities to deliver service to the customer and the area at the lowest reasonable cost. The facilities shall comply with accepted engineering and planning practices. The design shall consider reasonable needs for probable growth in the area and local land use planning. Unwarranted excess capacity that would result in unnecessary cost increases to the utility and its customers shall be avoided. The utility shall be responsible for the incremental cost of distribution facilities that are in excess of standard design for the customer and normal area growth.
  
- (3.) Efficient Use: The utility's extension rules shall discourage the inefficient use of electricity by appropriately relating costs to the charges made for extensions.
  
- (4.) Cost Estimates: The utility shall engineer and estimate the cost of each extension based on reasonable current costs. Current costs may be estimated using job specific costs, average costs per foot or unit, or other costing method as appropriate.

106.6 Point of Termination

The applicant for new service may select, with the approval of the utility, the point at which the utility will deliver service at applicant-owned terminating facilities. The applicant will furnish, own and maintain circuits, meter socket and equipment beyond such point, except for metering equipment.

It is necessary that a customer's service entrance facilities be located at a point most readily accessible to the utility's distribution system. It is desirable, and often necessary, to avoid crossing adjacent property with service drops or laterals. If the distribution system is established in the rear of the premises, the service entrance must be brought to the rear of the building. Where the distribution system is located on the street or where no distribution system has been established, the customer shall request the utility to specify an acceptable location of the service entrance facilities. The utility will furnish this information in writing upon request.

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106.7 Meters

Meters will be furnished and installed by the utility. The customer, however, must furnish the meter socket and all necessary extra wiring to meet the meter connection and must furnish a safe and convenient place for the meter(s).

In the event a customer desires an additional meter installed for his or her own convenience, the installation shall be entirely at the cost of the customer, including the cost of the meter.

106.8 Metering Facilities

The customer shall install the meter socket on the exterior of the building.

In rural areas, a yard pole may be furnished by the utility and located at a point central to the buildings to be served. In this case, the customer shall install the meter socket on the yard pole. All service equipment beyond this point is the responsibility of the customer.

When only a residence is built in the rural area and underground service is used, the meter may be placed on the pole if permission is obtained from the utility prior to installation. A customer-owned yard light may not be installed on this pole unless permission is obtained from the utility. The customer is responsible for the location of the meter socket. If it is located other than as described above, the customer must obtain writing permission from the utility prior to installation or the customer shall move the meter socket to conform to the utility standards.

106.9 Number of Service Drops or Laterals Per Customer

The utility shall provide standard overhead service drops and standard underground service laterals at no charge to the customers.

Not more than one service drop or service lateral will be installed to the same building or utilization point except:

- (1.) Where more than one point of delivery is necessary because of voltage regulation, governmental requirements or regulatory orders.
- (2.) In a large installation (large power only) where, in the opinion of the utility, more than one service drop or lateral is necessary to meet the load requirements.
- (3.) In row houses and other multiple occupancy buildings having areas separated by firewalls in compliance with the Wisconsin State Electrical Code.



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106.13 Nonstandard Service Facilities

If the proposed extension requires nonstandard service facilities or if the customer requests nonstandard facilities, the utility may require that the customer pay a contribution in advance of construction for the cost of the facilities in excess of the cost of standard design facilities.

106.14 Extraordinary Investment by Utility for Extension

Proposed extensions may be reviewed for economic considerations. If the cost of an extension exceeds five times the average embedded cost to serve a customer in the same class as the customer for whom the extension is to be made, the utility may require a contract with the customer. Under the terms of the contract, the customer may be required to pay the recurring estimated operation and maintenance expenses associated with that portion of the extension that is in excess of five times the average embedded cost at the time the extension was made. The reasons and supporting analysis for each contract will be furnished the customer and the Public Service Commission of Wisconsin (Commission), in writing. The utility will inform the customer of the customer's right to ask the Commission for a review of the extension costs and contract provisions. The utility will notify the Commission in writing, when a service extension is denied, including the reasons for denial.

107 INSTALLATION CHARGES AND EMBEDDED COST CREDITS

107.1 Definition of Equipment, Installation Charges and Embedded Cost Credits

For purposes of implementing these installation charges the following definitions shall apply:

107.1a Customer Classifications

Customer classifications are based on usage characteristics. Each classification has a distinct installation charge and embedded cost credit. For definitions of distribution and service facilities installed in new installations see Section 103. Examples of customer classifications are as follows:

- (1.) Residential Service
- (2.) General Service
- (3.) Power Service
- (4.) Street Lighting



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107.1b Total Cost of Installation

The total cost of an extension shall be defined as the cost of the extension of primary and secondary lines, (excluding the standard meter, the necessary standard service drop or service lateral and individual standard transformer capacity); reconstruction of existing main feeders including changing from single-phase to three-phase or construction of new feeders made necessary solely by addition of such customers; the cost of tree trimming or right of way clearing; securing easements; moving conflicting facilities; and all other costs incidental to furnishing service. The customer is responsible for the cost of restoration of the property after the utility has completed installation and backfilling where applicable. This definition applies to both overhead and underground distribution systems. If it is found to be advisable for the utility to install facilities in excess of that required to serve the new customer applying for service, the added cost of these facilities will not be used in determining the cost of the extension.

107.1c Installation Charge

The installation charge is the total cost of installation less the average depreciated embedded cost of the distribution system (excluding cost of the standard transformer and service facilities). Seasonal customers shall receive one-half the average embedded cost allowance of a year-round customer for the same customer classification.

107.1d Average Depreciated Embedded Cost

The Public Service Commission of Wisconsin determines the embedded cost of the distribution system (excluding the standard transformer and service facilities) for each customer classification, as indicated below. The average depreciated embedded cost by customer classification is listed in Schedule OC-1.

- (1.) Residential Service: The average depreciated embedded cost is determined by dividing the original cost less the estimated accrued depreciation of the distribution system and less customer contributions and advances for construction allocated to this customer classification by the number of customers in the group.
- (2.) Apartment and Rental Units Separately Metered: The owner of an apartment or rental unit applying for an extension of service shall receive the same average depreciated embedded cost credit, that applies for residential service, per unit metered.

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107.1d Average Depreciated Embedded Cost (continued)

- (3.) Subdividers and Residential Developers: The same average depreciated embedded cost credit, that applies for residential service, would apply per unit energized within five years from the installation of the contributed extension.
- (4.) General Service (Including Multi-Unit Dwellings If Billed on One Meter): The average depreciated embedded cost credit is determined the same way as Residential.
- (5.) Power Service: The embedded allowance is determined by dividing the original cost less the estimated accrued depreciation of the distribution system and less customer contributions and advances for construction allocated to this customer classification by the estimated average billed demand of these customers. When there is an upgrade, the average billed demand is the difference between the averaged billed demand before and after the upgrade.
- (6.) Street Lighting: The dollar amount per fixture is determined by dividing the overall depreciated cost of the distribution facilities allocated to the street lighting class, less credits for past customer contributions and advances for construction, by the total number of lighting fixtures in that classification.

All average depreciated embedded costs (by rate class) shall be subject to review by the Public Service Commission of Wisconsin, as part of each general rate case proceeding.

107.2 Total Cost of Installation by Customer Classification

107.2a Residential, General Service, Power Service, and Street Lighting Classes:

Will be charged the total installation cost less the average depreciated embedded cost as defined in Section 107.1d.

107.2b Residential and Commercial Developers and Subdividers:

Residential and Commercial developers and subdividers of single- and two-family subdivisions shall pay, as a minimum, a partially refundable contribution which is the estimated cost of distribution facilities to be installed for the area being developed. The average depreciated embedded cost is refundable as structures are built and connected to the electric utility facilities, as defined in Section 107.1d.

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107.2c Installation Charges for Multi-Family Residential Housing Units:

Will be the total installation cost less the average depreciated embedded cost, as defined in Section 107.1d, per each living unit in the multi-family building.

107.2d Other Installation Charges

In addition to the installation charges provided above, the utility may require the customer to pay, in advance of construction, the estimated direct costs for those distribution service facilities which,

- (1.) Are in excess of standard utility design and construction,
- (2.) Follow a route different than the most direct route as in Wis. Admin. Code ch. PSC 113, as determined by the utility, or
- (3.) Require abnormally high installation costs due to abnormal soil conditions, including trenching in rocky soil, frozen ground, or other similar conditions. (Winter construction will normally apply between December 1 and April 1.)

All such payments for these conditions are subject to partial refund as additional customers connect.

107.2e Adjustments to Estimates of the Total Cost of Installation

Section 107.2 explains the method for estimating the total cost of installation. The utility shall adjust its estimate of construction costs to reflect the costs that are actually incurred. If the cost of installation differs from the utility's original cost estimate, a recalculation of the customer contribution shall be made.

108 REFUNDS OF CUSTOMER CONTRIBUTIONS BY TYPE OF CUSTOMER

108.1 Eligibility for Refunds

The utility shall make refunds to a customer who made a contribution for an extension (a contributed extension) when the utility makes an extension from the contributed extension to a second customer that does not require a contribution from the second customer (a non-contributed extension).

In all cases, refunds to the customer making the original contributions shall be limited to the first five years from the installation date. The utility shall make the refund to the customer who made the original contribution or the current property owner of record unless it has a written record from that customer assigning the refund rights to another customer.



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109.3 Combination Single-Phase and Three-Phase Construction

In the event an extension is partially or completely supported on structures used for supporting transmission circuits, or in the event the extension is built to serve both single-phase customers and three-phase customers, the utility will compute, and apportion among the customers served, the extension contribution requirements and contribution refund rights in a fair and equitable manner consistent with the pertinent facts, and will retain in its files a memorandum of such computation and apportionment. The contribution requirement of the single-phase customers shall not be greater than would have been the case if an extension (complying with present engineering standards) had been constructed to serve only the single-phase customers.

110 UNDERGROUND SERVICE EXTENSIONS

110.1 General Rules on Underground Service Extensions

The utility will extend utility-standard underground service to all classes of retail customers requesting new service in all areas served by the utility.

110.2 Stipulations on Availability of Underground Service Extensions

Underground service extensions to be furnished by the utility are limited to those which may be placed in locations where grade levels and other conditions are satisfactory to the utility, such as across residential or farm yards or commercial premises or along driveways. The route of the underground construction must be clear of any trees, brush, fences or other surface obstructions that would interfere with normal operation of trenching equipment. Trench backfill shall consist of the original soil and shall not be power tamped. Lawn and landscaping restoration shall be the applicant's responsibility.

Underground service extension in locations such as beneath undeveloped land, quarries, gravel pits, swamps and water will not be furnished except by written approval of the utility for each installation.

The utility will not install an underground service extension where engineering, operating, construction, safety or legal problems would, in the utility's judgment, make it inadvisable to perform the installation, unless these problems can be resolved by the payment of contributions and/or the charges as provided for in these extension rules.

Notification must be given to the utility sufficiently in advance of construction so that a sequence of construction can be provided for and the work coordinated with other utilities involved.

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110.2 Stipulations on Availability of Underground Service Extensions (continued)

If the trench cannot for any reason be dug prior to the freezing of the soil, the utility may temporarily install secondary voltage conductors in suitable mechanical protection on top of the ground and dig the trench when the ground is thawed.

The utility shall not be prevented from installing underground electric equipment where necessary by reason of physical conditions or congestion in the area, when this type of construction is the most economical type for the conditions.

110.3 Contributions for Underground Extensions

The charge for all underground extensions shall be the total cost of the installation as defined in Section 107, less the average depreciated embedded cost as defined in Section 107.1d.

110.4 Contribution for Added Costs Due to Unusual Conditions

For unusual construction costs a contribution is required which may be subject to a partial refund as additional customers attach. The cost shall include:

- (1.) An amount equal to the estimated cost of boring or pavement cutting required or where conductors must be installed in rocky soil, frozen ground, or other similar conditions.
- (2.) An amount equal to the cost of any special requirements such as municipal requirements, rearrangement of facilities due to a change of plans or the need for an underground service extension different from or more elaborate than the utility's standard underground construction.
- (3.) An amount equal to the estimated additional cost for trenching through any area where normal plowing and trenching methods cannot be used, for example, ledge rock, boulders, land-fill, etc.

Upon completion of the construction, if the actual amount of such extra cost is less than the estimated amount, the utility will refund the difference between the estimated and actual costs.

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110.5 Combination of Overhead and Underground Extension

In accepting an application for underground electric service under this schedule, the utility does not undertake to avoid the construction of overhead lines in the neighborhood, which may be necessary to serve customers who demand and have the right to receive service from overhead lines. However, in order to avoid duplication of facilities, applicants for electric service whose premises can be served from an underground distribution system that has previously been installed adjacent to the applicant's premises shall be required to be served by an underground lateral from such system and shall pay the contributions and charges required in these extension rules.

110.6 Underground Distribution Areas

110.6a General Rules on Underground Distribution Areas

The utility will install utility-standard single-phase underground electric distribution system in accordance with this schedule where required by ordinance or when requested by and agreed to by the property owner(s) or developer or subdivider of the land area to be served. (However, all lines exceeding 15,000 volts in such areas may be overhead.)

Electric distribution facilities provided for under this rule are only for providing service to permanent buildings. The utility will own and maintain the underground conductors and appurtenances, and the character and location of such facilities shall be at the discretion of the utility.

110.6b Establishment of Underground Distribution Areas

(1.) Subdivisions

- a. For purposes of this schedule a subdivision shall be defined as a division of lands consisting of five or more contiguous lots. Lots directly across a street from each other are considered to be contiguous.
- b. To qualify as an underground distribution area the property owner(s) or land developer or subdivider shall have provided a suitable recorded plat of the subdivision with deed restrictions, all satisfactory to the utility, to require all utility service to be supplied by underground lines and prohibiting overhead lines, except for lines exceeding 15,000 volts, and with easements shown.

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110.6b Establishment of Underground Distribution Areas (continued)

- c. An area that qualifies as a subdivision may be established as an underground distribution area in either of the two following ways:
  - (1) All new subdivisions not already receiving electric service are defined as underground distribution areas where by ordinance the electric distribution systems are required to be underground.
  - (2) A group of property owners or land developer or subdivider may request that an area be served by an underground distribution system. Such area shall be specifically defined and of reasonably regular shape.

(2.) Mobile Home Courts: A new mobile home court or an expansion of an existing mobile home court, may be established as an under-ground distribution area where:

- a. The court consists of five or more established mobile home locations, all of which are contiguous.
- b. Occupancy of the mobile homes is to be on a year-round basis.
- c. The owner of the mobile home court provides the utility a written commitment that all utility service will be supplied by underground lines and prohibiting any overhead lines, except for lines exceeding 15,000 volts.

(3.) Condominium Developments and Apartment House Complexes: A new residential condominium development, apartment house complex or an expansion of an existing such housing facility may be established as an underground distribution area where:

- a. The condominium or apartment complex consists of five or more dwelling units.
- b. The developer provides the utility a written commitment that all utility service will be supplied by underground lines and prohibiting any overhead lines, except for lines exceeding 15,000 volts.



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110.6b Establishment of Underground Distribution Areas (continued)

- (4.) Easements: The property owner(s) or land developer or subdivider shall have secured for the utility, at no cost to the utility, such easements as the utility may require for the installation, operation and maintenance of its facilities including but not limited to easements for its transformers and switches. The property owner(s) or land developer or subdivider shall inform the utility of any known or expected underground obstructions within the cable routes. Any earth fill added to easements to bring the grade to final level shall not contain any large rocks, boulders, debris or rubbish.

In subdivisions, easements shall be provided along side lot lines as necessary for underground cables to street light locations approved by appropriate governmental authority.

- (5.) Expansion of Underground Distribution Areas: An established underground distribution area may be expanded to include such lots or building sites as are contiguous to it which are not already served by overhead lines. The owners of such lots shall be responsible for seeing that the lots meet the requirements specified above for the underground distribution area to which it is contiguous.

110.6c Contribution and Charges for Extension

- (1.) Contribution for Construction Within Underground Distribution Area: All of the provisions of contributions for construction of underground extensions will apply except that the extension allowance will apply to those lots at which dwelling units are occupied or under construction (construction has proceeded above the foundation level) only. The utility may require that the contribution in aid of construction be paid in advance of construction or may, at the utility’s option, offer the property owner(s), land developer, or subdivider an installment payment plan.
- (2.) Distribution Line to Underground Distribution Area: Where an extension of the utility’s existing distribution system is required in order to reach the underground distribution area, said extension will normally be overhead construction. The extension allowance for the overhead distribution line will apply to those lots on which dwelling units are occupied or under construction (construction beyond the foundation level) only. The utility may require that the contribution in aid of construction be paid in advance of construction or may, at the utility’s option, offer customers an installment payment plan. If required by statute or ordinance, or if required by the conditions in the judgment of the utility, all or a portion of the extension will be underground. A refundable contribution as provided in Section 110.6c(1), will apply.

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111 MODIFICATIONS TO EXISTING DISTRIBUTION AND SERVICE FACILITIES

111.1 Relocation and Rebuilding of Existing Distribution Facilities

(1.) Where responsibility can be determined by the utility, the customer responsible for relocation, rebuilding, or other modification of existing distribution facilities shall pay a contribution based on the following:

- Estimated direct cost of new facilities
- Less: Accrued depreciation of facilities to be removed
- Less: Estimated net salvage of the facilities to be removed
- Plus: Estimated cost of removal of existing distribution facilities
- Equals: Charge for modifications to existing facilities

The costs and credits of the above shall be determined from the available records of the utility. The utility shall endeavor to maintain records that permit a reasonable calculation of these costs and credits. The contribution shall be refundable when the extension is less than the embedded allowance as per Section 108, Refunds to Customers.

- (2.) Where the utility chooses to relocate its distribution system and it is practicable to bring a service drop or lateral to the existing service entrance facilities, the utility will make the necessary changes in the customer's wiring and service equipment without expense to the customer.
- (3.) In the event that the utility is ordered by a unit of government to move its distribution facilities, a new service drop will be installed, where practicable, to the existing service location without expense to the customer. If, in the opinion of the utility, it is not practicable to utilize the existing service entrance facilities, the utility will specify a new service location. The utility is not required to furnish new service entrance, cable, conduct, or service equipment unless it makes a practice of supplying this equipment. The utility shall, however, run a service drop to the nearest point on each building served from the new location and remove the old service drop without expense to the customer.

111.2 Replacement of Overhead Distribution Facilities with Underground Distribution Facilities

A customer requesting the utility to replace existing overhead distribution facilities with underground distribution facilities shall pay the contribution in aid of construction and receive refunds as shown in Section 111.1(1) above.

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111.3 Upgrade of Distribution Facilities Due to Change in Load

Customers who request an upgrading of the utility distribution facilities due to a change in the character of their load shall pay for the construction costs incurred by the utility to provide the requested additional facilities.

- (1.) Demand Schedule: Customers who are served under a demand rate schedule shall receive an embedded cost allowance. The kilowatts of demand to be used in determining the allowance shall be the customer’s average billed demand after the upgrade less the customer’s average billed demand before the upgrade.
- (2.) Customers Transferring to a Different Energy-Only Classification: If a customer served under an energy-only sub-classification prior to the upgrade qualifies for a different energy-only sub-classification after the upgrade, the customer shall receive a cost allowance equal to the difference between the two embedded cost allowances.
- (3.) Customers Transferring to a Demand Classification: If a customer is served under an energy-only classification prior to the upgrade, the customer shall receive an embedded cost allowance. The kilowatts of demand to be used in determining the allowance shall be the customer’s average billed demand after the upgrade less an estimate of the customer’s prior average demand.

111.4 Upgrade of Service Facilities

- (1.) Overhead Service Drop: The utility shall not charge the customer to upgrade an overhead service drop with a larger size overhead service drop up to the maximum standard size.
- (2.) Underground Service Lateral: The utility shall not charge the customer to upgrade an underground service lateral with a larger size underground service lateral up to the maximum standard size.
- (3.) Overhead Service Drop to Underground Service Lateral: The utility shall require a contribution from a customer requesting to have an overhead service drop upgraded to an underground service lateral. The contribution shall be equal to the cost of the underground service lateral less the cost of an equivalent overhead service drop.
- (4.) Transformers: The utility shall not charge the customers to upgrade their transformer to the maximum standard capacity.

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112 EXTENSIONS OR MODIFICATIONS OF TRANSMISSION FACILITIES TO RETAIL CUSTOMERS

Before a utility extends or modifies its transmission facilities to a retail customer, the utility shall require a contract between the utility and the customer which describes the facilities to be constructed, such as the cost of construction, apportions the responsibility for the construction costs between the utility and the customer, and provides a supporting analysis for the construction and the cost apportionment. The utility shall submit the contract to the Commission for approval. The Commission shall review the contract to assess whether existing ratepayers would be adversely affected by the proposed extension or modification. If the Commission does not respond to the utility within 20 working days from the date of receipt, the contract is approved.

113 TEMPORARY SERVICE

The utility will extend its service to fairs, carnivals and like short-time gatherings and uses (not including short-time uses in the nature of auxiliary, stand-by or seasonal use) under the following rules:

- (1.) The customer will agree to reimburse the utility for its expenditures in extending service.
- (2.) The cost of extending service shall include all items of labor and materials, with the customary overhead charges, necessary to furnish the customer with the service requested. It shall also include any costs involved in the dismantling of materials and their return to stock. Where materials dismantled have a salvage value, the cost of extending service will be credited with such salvage value.
- (3.) All energy will be measured at one standard voltage at some convenient point designated by the utility.
- (4.) The customer will make the necessary arrangements and provide for the necessary equipment in the event more than one voltage is required.
- (5.) The cost of all construction (labor and materials) necessary to distribute energy on the premises occupied by the customer will be borne by the customer.
- (6.) The utility may require the customer to make an advance deposit sufficient to cover the costs of extending service and the estimated bill for energy.
- (7.) The rates applicable in the area where temporary service is rendered shall be applied in determining the customer's bill.





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117 MOTORS AND MOTOR CONTROL

In order to prevent impairment of service to other customers, it is necessary to establish limits for the allowable starting currents for motors. Before selecting motor equipment, the customer should consult the utility to determine the specific voltages available at any location.

When a motor is used to drive equipment that requires varying torque during each cycle of operation, such as a compressor or reciprocating pump, the combined installation should have enough momentum in its moving parts so that its operation will not interfere unduly with service to other customers.

- (1.) Types of motor service available on general service lighting rates, single-phase only are as follows:
  - a. Single-phase fractional horsepower motors: Automatically controlled and frequently started, whose locked rotor currents do not exceed 23 amperes may be connected to 120-volt circuits.
  - b. Single-phase motors, one horsepower or less: Manually controlled or infrequently started, whose locked rotor currents do not exceed 50 amperes may be connected to 120-volt circuits. No single-phase motor larger than 1 horsepower shall be operated on a 120-volt circuit.
  - c. Infrequently started single-phase motors of 10 horsepower or less may be connected to 240-volt other circuits if their locked rotor currents do not exceed the values shown in the next section describing motor service available on power rates.
  - d. In urban areas infrequently started three-phase motors of 10 horsepower or less; connected through single-phase to three-phase converters may be used on other circuits.
  - e. Single-phase motors above 10 horsepower are not permitted in rural areas.

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117 MOTORS AND MOTOR CONTROL (continued)

(2.) Types of motor service available on power rates and combined light and power rates, single-phase and three-phase are as follows:

- a. Motors with long periods of continuous operation under maximum load conditions and having not more than four starts per hour may be connected if their locked rotor currents do not exceed those listed in the following table. Consult the utility where these conditions cannot be met, or where equipment ratings and/or starting characteristics exceed the values in the table below:

Motor Starting Table

<u>Motors Rated</u>	<u>Total Locked Rotor Current Not to Exceed</u>
120 Volts, Single-Phase	50 Amperes
240 Volts, Single-Phase 2 Horsepower or Less	60 Amperes
2 to 6.5 Horsepower	60 Amperes Plus 20 Amperes Per Horsepower in Excess of 2 Horsepower
6.5 to 15 Horsepower	150 Amperes Plus 10 Amperes Per Horsepower in Excess of 6.5 Horsepower
240 Volts, Three-Phase 2 Horsepower or Less	50 Amperes
2 to 19.9 Horsepower	50 Amperes Plus 14 Amperes Per Horsepower in Excess of 2 Horsepower
20 to 40 Horsepower	300 Amperes Plus 4 Amperes Per Horsepower in Excess of 20 Horsepower
50 Horsepower and Over	8 Amperes Per Horsepower



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117 MOTORS AND MOTOR CONTROL (continued)

- b. Motors above 10 horsepower rating are to be three-phase.
- c. New installation of motors of 50 horsepower or larger should be approved by the utility as to motor type, starting and protective equipment, and as to availability of an adequate power supply at the proposed location.
- d. Motors subject to frequent starts, such as elevator and hoist motors, when connected to the secondary distribution system, should have their starting current limited to 100 amperes.
- e. For motors of higher voltage rating than shown in the motor starting table, the allowable currents are inversely proportional to the voltages.

118 MISCELLANEOUS EQUIPMENT

X-ray equipment operated on lighting or combined lighting and power services shall have input currents not exceeding 24 amperes without specific approval of the utility.

All other equipment not specifically provided for in this section will be subject to approval of the utility on the basis of starting currents specified herein for motors with the same frequency of starting. Customers are advised to consult the utility before connecting any such apparatus.

119 PRIVATE POWER PLANTS

No generator may be electrically connected to the utility's lines or equipment without the written consent of the utility and with adequate physical arrangements to prevent hazard to life and damage to utility property.



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- (3.) If a customer requests stray voltage investigative analysis more than two times in a 12-month period, and the utility has not found stray voltage above the level of concern in any of these analyses, the utility may charge a fee for any further stray voltage analyses it performs during the remainder of the 12-month period. The fee may not exceed \$320, which is estimated to be the cost of the additional requested service.
- (4.) Following a determination by the utility that, under normal operating conditions, the contribution to animal contact current from off-farm sources is in excess of 1 mA, the utility shall implement, at its expense, measures to reduce this contribution to below 1.0 mA. For farm facilities housing livestock where stray voltage from off-farm sources is a concern, it may be necessary under certain conditions to modify the farm or utility electrical system, or both.
- (5.) The utility shall, based on a technical and economic analysis of acceptable alternatives for lowering levels of stray voltage at the given location, determine whether long-term system modification should be on-farm, off-farm or both. If the utility, with the consent of the customer, chooses to install a long-term mitigation device (e.g., an electronic grounding system or equipotential plane) on farm property, the customer will assume ownership of the device. The utility will respond to reasonable customer requests regarding maintenance of the device. The customer is responsible for the daily monitoring and energy costs of the on-farm mitigation device, if any. The customer may be required to sign a Stray Voltage Reduction Agreement prior to installation of an on-farm mitigation device.
- (6.) The utility will not install any mitigation device(s) where its stray voltage investigation reveals unsafe conditions, or the inspection report of a state certified commercial electrical inspector or a state certified master electrician reveals that conditions do not comply with applicable electrical codes. If the utility's investigation reveals unsafe conditions, the utility shall notify the customer of the problems found and the potential hazards, and shall recommend the customer take prompt action to remedy the hazard.

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- (7.) In the event modification of on-farm or off-farms systems, to reduce off-farm stray voltage contribution, is not required, the customer may request separation of primary and secondary neutrals. The neutral reconnection device(s) ["isolator(s)"] used for this purpose shall be approved for use by the utility and the Public Service Commission of Wisconsin. Prior to installation, the customer shall submit an application form, a satisfactory farm wiring inspection report which has been issued by a state certified commercial electrical inspector or a state certified master electrician, and submit payment for all costs associated with the neutral separation. The customer may be required to sign a Customer Requested Neutral Separation Agreement and may also be required to sign a Hold Harmless/Indemnification Agreement and Release approved by the Public Service Commission of Wisconsin. Separation costs shall include labor, equipment, and materials [excluding the isolator(s)] necessary for both isolator(s) installation and a post-separation analysis of possible bypass circuitry. Costs may vary and may, therefore, be subject to a specific determination for each farm location. The isolator(s) shall be owned by the utility and shall be leased to the customer at a lease rate of \$35.00 per isolator, per month. This lease rate includes an appropriate amortized fee to cover the cost of an annual inspection designed to assess isolator effectiveness and to ensure that the isolator(s) continues to perform its intended function of neutral reconnection under fault conditions. Lease agreement shall require monthly billings.
- (8.) If within one year of the date of installation of a customer-requested isolator(s), the customer requests isolator(s) removal, the utility shall refund to the customer all lease amounts which the customer has paid to date.
- (9.) Where modifications to on-farm or off-farm systems to reduce off-farm contribution is required but cannot be accomplished within five working days, the utility may install a temporary isolator(s). The customer may be required to sign a Temporary Neutral Separation Agreement prior to installation. The utility must remove the isolator(s) and reconnect the neutrals within 90 days, unless it receives a waiver from the Public Service Commission of Wisconsin or the customer completes a Customer Requested Neutral Separation Agreement. Upon receiving a completed Customer Requested Neutral Separation Agreement, the utility (not the customer) will provide the inspection of farm wiring by a state certified master electrician or state certified commercial electrical inspector. If any wiring code violations are found and the customer corrects them within 60 days, the utility will keep the isolator(s) in place. Otherwise, it must remove the isolator(s) and substitute another mitigation technique to reduce off-farm stray voltage to 1.0 mA or less.

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- (10.) Should the customer whose neutrals were temporarily separated as provided for in (9.) above desire the isolator(s) be left in place following the required reduction of off-farm stray voltage contribution, the customer may request the continuation of this service in accordance with the terms and conditions established in (7.) above. The agreement shall be contingent on receipt of a satisfactory wiring inspection report issued by a state certified commercial electrical inspector or a state certified master electrician. Initial installation costs will be waived.
- (11.) At farm locations where primary and secondary neutrals have been separated at the request of the customer as provided for in (7.) and (9.) above, cost-free stray voltage investigative services may be limited to an annual investigation that determines the effectiveness of the isolator and isolation and an analysis of utility facilities only. If the customer requests on-farm stray voltage analysis or additional determinations of isolation effectiveness, the Utility may charge a \$320 analysis fee.
- (12.) Numerous locations exist where primary and secondary neutrals have been separated for various reasons prior to the order date, July 16, 1996. As stray voltage investigations are performed at these locations, either at customer request or incident to existing utility isolator removal efforts or system modifications, and the utility's stray voltage contribution under normal operating conditions is determined to be less than 1.0 mA, these customers shall become subject to all of the conditions set forth above.
- (13.) Prior to July 16, 1996, the utilities shall perform the required stray voltage investigation and separate the primary and secondary neutrals within 45 days of the receipt of a Public Service Commission of Wisconsin approved Isolation Request form and a satisfactory farm wiring inspection report which has been issued by a state certified commercial electrical inspector or a state certified master electrician. Subsequent to July 16, 1996, the utilities shall perform the investigation and separation within 30 days of the receipt of the above-referenced documentation. The utility shall not be required to initiate the neutral separation work requested prior to receipt by the utility of full payment for all costs associated with the neutral separation, as specified in (7.) above.
- (14.) The utility may not install, or permit the continued use of, an isolator(s) at locations where livestock are not and/or no longer will be housed.
- (15.) The company may supply service at one point to a customer for distribution by the customer to a number of buildings owned by the customer, provided that such buildings are located on contiguous properties including those directly across public thoroughfares.