1105 First Avenue Windom, MN 56101

Electric Service Rules and Policies

FOREWORD

This handbook has been prepared by Windom Municipal Utilities (WMU) as a reference and guide to its regulations, practices and general requirements for the connection of electric service facilities and utilization of equipment. It is provided for use by customers, contractors, consultants and other persons engaged in the planning or construction of buildings and the installation or replacement of equipment connected to and served by the WMU electric distribution system. The requirements stated or implied herein are subject to change at any time without prior notice. By release of this handbook, **Version 1.0**, we hope to increase the standardization of electric service provided by Windom Municipal Utilities. We value any comments and/or corrections you may have pertaining to this handbook. Please direct any comments or questions to Windom Municipal Utilities' business office at 507-831-6151.

WMU wishes to serve its Customers promptly and satisfactorily. We will endeavor to cooperate with Customers and their designated representatives to the fullest extent in completing service connections with as little delay and inconvenience as possible. WMU will gladly give special attention to any particularly difficult situation confronting a Customer.

This is not intended to be a comprehensive manual for all wiring details and other lawful requirements. It is, rather, prepared as a guide and supplement to the National Electric Code, the National Electrical Safety Code and any other rules, regulations or ordinances imposed by other authorities having jurisdiction.

The publication of these Electric Service Rules and Policies shall not be construed as relieving the Customer, or his or her contractor, from the responsibility of the proper installation of wiring in accordance with the rules and regulations of any authority having jurisdiction. WMU shall not be deemed under any circumstances to have accepted any responsibility for the condition of the Customer's wiring and equipment.

DECLARATION OF LIMITATIONS

When WMU determines it is in the best interest of public safety, the Customer, or the efficient operation of the electric systems, WMU hereby reserves the right to make certain determinations that may be contrary to these Electric Service Rules and Policies.

Nothing in these Electric Service Rules and Policies shall be construed to undermine reasonable engineering principles and practices.

1st amendment 4/25/2017 (Changed 31.3)

LIST OF SECTIONS BY SUBJECT **Page Number**

SECTION 1: DEFINITIONS

Application For Service:	The agreement or contract between WMU and the Customer under which electric service is provided.
Accessible:	Admitting close approach, not guarded by locked doors, elevation or other effective means.
Customer:	Any entity taking delivery of electrical energy from Windom Municipal Utilities (WMU) by means of connection to its electric distribution system.
Customer's Service Equipment:	The necessary equipment and accessories located near the point of delivery at a Customer location which constitute the main control and means of disconnecting the supply to that location. This equipment usually consists of a circuit breaker or a switch and fuses.
DRU – Demand Response Unit	Future
Electrical Contractor:	Any person, firm or corporation engaged in the business of installing, maintaining or altering, by contract or otherwise, electrical equipment for the use of electric energy supplied for light, heat or power in any building or structure which is, or will be, connected to WMU's electric distribution system.
Electrical Distribution System:	The system, in whole or in part, over which electrical energy is supplied by WMU to its Customers.
Electric Utility Manager:	The person with supervisory responsibility for the construction, operation, and maintenance of the electric distribution system.
Facilities:	The conductors, transformers, pedestals, switching cabinets, meters and other associated equipment that comprises the Electric Distribution System.
Facilities Installation Charge (FIC)	The charge made to the Customer by WMU for the cost of the installation of the on-site electric distribution system. (e.g. service wire, primary cable, conduit, meter socket, meter)
Meter Socket and Trough:	The mounting device consisting of jaws, connectors, and enclosure for socket-type meters. The mounting device may be either a single socket or a trough. The socket may have a cast or drawn enclosure. The trough and assembled enclosure may be extended to accommodate more than one mounting unit. This equipment is owned and maintained by WMU.
National Electric Code (N.E.C.)	The latest revision of the National Electric Code of the National Board of Fire Underwriters as approved by the American National Standards Institute.
National Electrical Safety Code (N.E.S.C.)	The latest revision of the National Electrical Safety Code as approved by the Institute of Electrical and Electronics, Inc. and approved by the American National Standards Institute.
Nominal Voltage:	A specific voltage value assigned to a circuit or system for the purpose of convenient designation.
Point of Delivery:	The point where electric energy leaves that part of the electric distribution system owned by Windom Municipal Utilities and enters that portion of the electric distribution system owned by the Customer. This is not necessarily the location of WMU's meter.

Power Factor:	The relationship (ratio) between the active power and the volt Amperes in any particular alternating current circuit.
Primary Voltage:	The voltage on the supply side of a transformer.
Secondary Voltage:	The voltage on the load side of a transformer.
Service Entrance:	The point at which the Customer's service equipment connects to WMU's facilities.
Service Location:	The point of attachment of the underground service cables to the Customer's building.
Structure:	An object which is constructed or erected requiring permanent location on land.
Temporary Service:	The installation of a service of a temporary nature, usually for construction purposes, for a period of time not to exceed one (1) year from the date on which the temporary service is installed.
Utilization Equipment:	Any Customer owned equipment, apparatus, appliance or device located on a Customer's premises or used by a Customer.
WMU:	Windom Municipal Utilities (WMU).

SECTION 2: LIABILITY

2.1 WMU is not responsible for and will not install, maintain or otherwise service the electrical distribution system beyond the point of delivery except for WMU-owned equipment. WMU shall not be liable to any Customer or to any third party for damage resulting from the Customer's use of the service or from the presence of WMU-owned equipment on the Customer's premises.

2.2 The Customer is solely responsible for any accidents, fires or failures resulting from the condition and use of the electric distribution system beyond the point of delivery.

SECTION 3: ACCEPTANCE OF SERVICE RULES

3.1 Any person making Application for Service, accepting, or using WMU electrical service by connecting to WMU's electrical distribution system thereby agrees to conform to and abide by all applicable federal, state and local rules and regulations for the operation of the electrical distribution system.

SECTION 4: DEMAND RESPONSE PROGRAM *(FUTURE USE)*

SECTION 5: ACCESS TO ELECTRIC UTILITY FACILITIES

5.1 Any properly authorized agent of WMU shall have free and scheduled access to the Customer's premises at all reasonable hours for the purpose of reading, examining, inspecting, repairing, replacing or removing any element of the electric distribution system owned by WMU.

5.2 No Customer shall build or install any structure such as a deck, porch, patio or addition over or around WMU-owned facilities or otherwise block access to existing WMU-owned distribution system equipment.

5.2.A WMU may relocate WMU-owned distribution system facilities to accommodate a Customer's needs when:

(i) The Customer makes a written request for the relocation of WMU facilities and agrees to pay all costs associated with such relocation.

(ii) WMU determines that the requested relocation is technically feasible.

5.2.B Any Customer blocking access to WMU-owned facilities shall be given written notice of such violations and shall be given a specified period of time within which to provide for appropriate corrective action acceptable to WMU.

5.2.C Any violation of this section not corrected within the specified time shall be corrected by WMU and the Customer shall be billed for all costs associated with such corrective action.

5.3 To maintain the safe operation of the electric distribution system, WMU hereby reserves the right to remove any trees, bushes, fences or other obstructions located on a Customer's property which block access to WMU-owned facilities.

SECTION 6: TREE TRIMMING

6.1 WMU hereby reserves the right to trim or remove any trees which create a hazard as defined by the National Electrical Safety Code.

6.2 Properly authorized agents of WMU shall have access to a Customer's property at all reasonable hours for the purpose of trimming or removing trees.

6.3 WMU hereby reserves the right to trim or remove any trees that obstruct the street lighting system.

SECTION 7: APPLICATION FOR SERVICE

7.1 Application for a new, additional, temporary or rehabilitated electric service shall be made to the WMU's business office located at 444 9th Street, PO Box 38,Windom, Minnesota 56101.

7.2 All such applications shall contain:

7.2.A A description of the service requirements including the electrical load data and the expected magnitudes of connected and peak load. Additional data in the form of construction drawings and proposed service entrance may also be necessary for WMU to adequately determine the arrangement of service to the Customer.

7.2.B Exact location of premises to be served, including the street address.

7.2.C The approximate date that electric service is required.

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

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

7.3 WMU must be advised of planned installations as soon as possible so that construction may be completed by the desired date. Some three-phase transformers require as much as a 24-week lead-time.

7.4 The applicant agrees to purchase from WMU and pay monthly to WMU for electrical energy or the demand and energy used on the premises described, owned or operated by the applicant in accordance with the rate schedule and rules and regulations established by WMU.

7.5 The applicant grants to WMU the right and easement on the premises to construct, operate, repair and maintain electrical distribution material, equipment and service line. The applicant also grants the right to cut and trim trees necessary to keep them clear of all parts of the electrical system.

7.6 The applicant agrees to comply with all laws of the State of Minnesota regulating the installation and maintenance of electric wiring and such rules and regulations as may be adopted by the State Board of Electricity. The applicant will comply with, and be bound by, such rules and regulations as may be adopted by WMU.

SECTION 8: EASEMENTS

8.1 As required, property owners shall dedicate by plat or grant by written agreement, municipal utility easements to the City of Windom for WMU's use in the construction, maintenance and replacement of the electric distribution system.

8.2 All required easements shall be dedicated or granted without cost to the City of Windom or WMU. This shall include any additional or relocated easements, which may be required by WMU due to circumstances or conditions unforeseen prior to the beginning of construction.

8.3 Standard easements shall customarily follow property lines. If such customary easement location is not possible due to field conditions (hills, slopes, obstructions, etc.), required easements shall be located in the nearest suitable area that will insure the safety of the individuals and equipment involved in the constructing, installing or relocating of WMU facilities.

8.4 Easements shall be recorded with the County Recorder and shown on the subdivision plat.

8.5 The only time a request to vacate an easement will be considered is:

8.5.A When the easement in question has no utilities located upon it and no foreseeable need to maintain the easement can be established.

8.5.B The requesting party agrees to pay all associated costs in relocating all established utilities and provide a feasible alternate easement.

8.5.C The final decision on whether or not to vacate an existing easement rests with the Utility Commission and the City Council.

SECTION 9: WIRING CERTIFICATION

9.1 Only licensed electrical contractors and resident homeowners are permitted to alter, modify or install wiring devices or appliances in the homes where they reside. Wiring will be subject to inspection by State of Minnesota Electrical Inspector.

9.2 WMU shall not connect any new or rehabilitated service to the WMU electric system except upon receipt of the completed Contractor or Registered Employer Request for Electrical Inspection Form.

9.3 As required by Minnesota State Statute, all wiring in mobile home parks must be performed by properly licensed employees of licensed electrical contractors. Owners of manufactured homes, park owners, park employees or other unlicensed persons are not permitted to install wiring for any purpose.

9.4 As required by Minnesota State Statute, all new or replacement wiring is required to be inspected. This includes connection of new or relocated manufactured homes.

9.5 WMU hereby reserves the right to make a further inspection of service entrance and grounding equipment before making any connection to its electrical system.

9.6 Any inspection by WMU shall not be deemed to be an approval of the adequacy of any wiring or certification that such wiring conforms to the rules, regulations and ordinances of the authorities having jurisdiction.

9.7 WMU hereby reserves the right to require a Certification for Connection by Utility for installations that have been disconnected for one or more years.

SECTION 10: METERING

10.1 General

10.1.A All electricity furnished by WMU shall be metered unless the Customer has entered into a written agreement with WMU to otherwise account for the Customer's use of energy.

10.1.B Responsibilities for the purchase and installation of metering and related equipment are summarized in Appendix A.

10.1.C Sub-metering of electricity by Customers for the purpose of resale is prohibited.

10.2 Meter Locations

10.2.A Meter location for new, modified or rehabilitated installations will be agreed upon by representatives of the Customer and WMU, subject to final approval by WMU.

10.2.B All meters shall be located outdoors unless special permission has been obtained from WMU.

10.2.C Meters shall be located to facilitate the setting, changing, testing and reading of the meters.

10.2.D All metering equipment shall be located in an area openly accessible to WMU and shall be grouped to minimize the number of metering points.

10.2.E The Customer shall be solely responsible at all times to maintain a clear forty-eight inch (48") work area in front of each meter location as well as a suitable approach to the meter location, as determined by WMU. If meter location is within a fenced-in backyard, a gate shall be provided for access.

10.2.F The customer or property owner shall install concrete-filled, eight inch (8") steel posts to protect the metering installation where meters are located outdoors in paved areas or in any other areas where WMU determines the metering installation is susceptible to damage.

10.3 Meter Testing

10.3.A Any Customer who believes that a meter is failing to properly register the use of electricity may request a meter test by contacting WMU. WMU will install a new meter and the removed meter shall be tested using standard calibration equipment and generally accepted test procedures within a reasonable period of time.

10.3.B Customers who request additional tests of the same meter installation within a twelve-month period will be charged for the additional tests at a fee established by WMU if the meter is found to be correctly metering use of power.

10.3.C Whenever any meter is found upon test to have an average error of more than two percent (2%) fast, WMU shall refund to the Customer the overcharge. Whenever any meter is found upon test to have an average error of more than two percent (2%) slow, WMU will charge for electricity consumed but not included in bills previously rendered. The refund or charge for both fast and slow meters shall be based on corrected meter readings for a period equal to one-half of the time elapsed since the last previous test but not to exceed six months, unless it can be established that the error was due to some cause, the date of which can be fixed with reasonable certainty, in which case the refund or charge shall be

computed to that date, but in no event for a period longer than one year. (Minnesota Rules, Public Utilities Commission, Utility Customer Service, Chapter 7820.3900)

10.3.D When the average error cannot be determined by test because the meter is not found to register or is found to register intermittently, WMU may charge for an estimated amount of electricity used, which shall be calculated by averaging the amounts registered over corresponding periods in previous years or in the absence of such information, over similar periods of known accurate measurement preceding or subsequent thereto, but in no event shall such charge be for a period longer than one year. (Minnesota Rules, Public Utilities Commission, Utility Customer Service, Chapter 7820.3900)

10.3.E If the recalculated bills indicate that more than $1 is due an existing Customer or$2 is due a person no longer a Customer of WMU, the full amount of the Credits shall be shown separately and identified. If a refund is due a person no longer a Customer of WMU, a notice shall be mailed to the last known address and WMU, upon demand made within three months thereafter, shall refund the amount due. If the recalculated bills indicate that the amount due the utility exceeds $10, WMU may bill the Customer for the amount due. The first billing rendered shall be separated from the regular bill and the charges explained in detail. (Minnesota Rules, Public Utilities Commission, Utility Customer Service, Chapter 7820.3900)

10.3.F If a Customer has called to WMU's attention his or her doubts as to the meter's accuracy and WMU has failed within a reasonable time to check it, there shall be no back billing for the period between the date of the Customer's notification and the date the meter was checked. (Minnesota Rules, Public Utilities Commission, Utility Customer Service, Chapter 7820.3900)

10.4 Meter and Equipment Seals

10.4.A WMU shall seal all meters and points of access to unmetered wiring on the Customer's premises.

10.4.B The customer shall call WMU if it becomes necessary to gain access to any sealed equipment.

10.4.C No unauthorized person shall break any seal, close any by-pass switch, connect, disconnect or tamper with any of WMU's metering equipment.

10.4.D Any person(s) determined to have violated this rule shall be prosecuted to the full extent of the law and shall also be liable for the cost of all energy supplied which has not been billed due to unauthorized use, alteration or tampering with metering equipment.

10.4.E The customer and the owner of the Customer's premises (if not the same as Customer) shall be jointly and severally liable for the costs of any such unauthorized use of energy.

10.5 Meter Installations

10.5. A General

(i) Single-phase meters up to 240 volts, 200 amperes shall be installed with through-type meter sockets that are provided by WMU (subject to FIC).

(ii) All devices designed to interrupt service or protect against vandalism shall be installed on the load side of the meter(s).

(iii) Where meter damage occurs or is anticipated, outdoor meters shall be protected by a suitable box with hasp and staple for the installation of a padlock.

(iv) Where WMU determines that a protective box is required to protect against possible vandalism or meter tampering, such a protective box shall be installed and maintained by WMU.

10.5.B Meter sockets shall be furnished by WMU, subject to a FIC, and installed by the Customer. All meter sockets will be "ringless" and have a manual bypass.

10.5.C The customer shall install a WMU-furnished manual bypass meter socket for each of the following single-phase installations:

(i) All commercial installations; and

(ii) All residential installations rated at 200 amperes.

10.5.D After meter sockets are installed, the interior of the socket must be protected if exposed to the weather or if the terminals are energized. WMU will furnish and install cover plates for unused meter sockets at the time meters are installed on other loops.

10.5.E Multiple Meter Installations

(i) WMU shall review and approve all multiple meter service requests prior to the installation of any equipment.

(ii) Multiple meter bank assemblies shall be designed so that the center of the top meter is no more than sixty-six inches (66") above the floor or the ground and the center of the bottom meter is no less than forty inches (40") above the floor or the ground.

(iii) Where two or more meters are installed at a location, provisions shall be made so that the specific address or area served by each meter is easily determined.

10.5.F No part of the metering set may be used as a junction box for the Customer's wiring.

10.6 Instrument Transformer Meter Installations

10.6.A The installation of all meters rated over 200 amperes shall include the necessary equipment for mounting current transformers.

10.6.B WMU shall furnish, own and maintain all instrument transformers required to provide electric service.

(i) The Customer shall provide the necessary equipment for mounting bus bar type current transformers and install a one-inch (1") conduit from the meter socket to its respective exterior instrument transformer enclosure.

(ii) The meter socket will be located on an outside building wall, between forty-four inches (44") and sixty-six inches (66") above final grade, and in such a position that there will be no obstructions to meter reading, testing or other maintenance.

SECTION 11: DAMAGE TO WMU-OWNED FACILITIES

11.1 Any person working in the vicinity of WMU-owned electric facilities shall be solely responsible for his/her own safety and responsibility to take whatever precautions are necessary to avoid damaging such facilities.

11.2 Any person causing damage to WMU's equipment or facilities shall be responsible to reimburse WMU for any costs incurred to repair such damage.

11.3 Any person causing damage to WMU's primary system shall be responsible for all costs associated with temporary repairs made to restore service and for all costs related to replacement of the primary circuit from the nearest termination point to termination point. Due to the demand for the highest possible power quality, at WMU's discretion splices may not be permitted on the primary system.

SECTION 12: CHARACTER OF SERVICE

12.1 **Normal Service**

12.1.A Service supplied by WMU shall be alternating current(AC) at a nominal voltage and at a frequency of 60 HZ.

12.1.B WMU hereby disclaims any liability and does not guarantee to maintain the accuracy of the nominal values under all conditions.

12.2 **Standard Classes of Service**

12.2.A All Customers shall call WMU before designing electrical service. Not all voltage characteristics are available in all service areas.

12.2.B WMU will provide the following secondary service where the specified voltages are available either from existing facilities or from facilities planned for the requested location.

(i) **Classes of Service**

Phases	Wires	Voltage	Use
1	3	120/240	Lighting and Appliances
1	3	120/208	Lighting and Appliances
3	4	120/208	Light and Power
3	4	277/480	Light and Power

(ii) There are areas within WMU's service area where nonstandard secondary voltages exist.

12.2.C WMU shall not provide 120/208 volt service to any Customer with a service entrance exceeding 2,500 amps.

12.2.D Customers are advised that since the class of service available depends on existing and planned facilities, they should obtain specific characteristics of available service before proceeding with the purchase and installation of any equipment.

12.2.E Information concerning the specific classes of service available may be obtained from WMU.

SECTION 13: ELECTRIC SERVICE 200 AMPS AND LESS

13.1 WMU shall construct and install all on-site electric distribution systems in new or existing subdivisions or developments.

13.1.A All such distribution systems shall be constructed in conformity with the requirements of the National Electric Safety Code, as adopted by reference in WMU's Electric Service Rules and Policies, in effect or as amended.

13.1.B All services shall be installed underground in accordance with these Rules and Policies.

13.1.C WMU shall provide only one electric service connection to each Customer location.

13.1.D WMU will provide each Customer location with electric service rated at 120/240 volts, single phase, 200 amperes, in accordance with standard service rules for new construction.

13.2 The owner, subdivider, builder, developer and/or Customer shall install, maintain and replace as necessary the entrance conduit and the WMU-furnished metering equipment in accordance with the NEC standards.

13.2.A Meters shall be located to maintain completely open access at all times for meter reading, meter testing or other maintenance.

13.2.B The center of any meter shall be located between forty inches (40") and sixty-six inches (66") above final grade.

13.2.C The electric meter shall be located at the side or rear of the structure which is nearest to the point of connection with WMU's system.

(i) The owner, subdivider, builder, developer, or contractor shall provide a straight, clear, unobstructed path across the property as required for the installation of the on-site electric distribution system.

13.3 The owner, subdivider, builder, developer, and Customer shall be jointly and severally responsible for the payment of the Facilities Installation Charge (FIC).

13.4 When WMU-owned facilities need to be relocated or upgraded due to any development, re-development, rehabilitation, addition, site modification, increase in load or Customer request, all required work shall be performed by WMU. The associated costs incurred shall be fully reimbursed by the requesting party.

13.5 At the sole discretion of WMU, the owner, subdivider, builder, developer or Customer may be required to pay for required on-site distribution system equipment before WMU orders such equipment.

13.6 The ground in which electric service will be located shall be brought to within four inches (4") of final grade and all other underground utilities to be located beneath the electric service shall be installed prior to the installation of the electric distribution system.

13.7 When WMU determines it is necessary to relocate an existing electric meter due to meter failure or alterations or additions to an existing dwelling unit, the meter shall be located in conformity to these Service Rules and Policies and the relocation shall be at the expense of the Customer.

SECTION 14: ELECTRIC SERVICE OVER 200 AMPS

On services over 200 amps

14.1 The Customer shall consult with WMU before selecting any service location.

14.2 The Customer and the applicant for service, if different than Customer, shall be jointly and severally responsible for the payment of the Facilities Installation Charge (FIC), which includes the cost of the construction and installation of the on-site electric primary distribution system.

14.3 Where WMU-owned facilities need to be relocated or upgraded due to any development, re-development, rehabilitation, addition, site modification, increase in load or Customer request; the costs shall be fully reimbursed at the sole expense of the requesting party.

14.4 WMU-Owned Equipment

14.4.A WMU shall furnish and own the transformer or the secondary pedestal, all primary cable and all associated equipment. All primary cable and associated equipment furnished or installed by WMU is the property of WMU (subject to FIC).

14.4.B The meter and associated metering equipment furnished by WMU is the property of WMU. WMU shall furnish and own the meter and current transformers.

14.5 Customer-Owned Equipment

14.5.A The Customer or property owner shall install, maintain and replace as necessary the entrance conduit, entrance wire and the WMU-furnished metering equipment in accordance with the N.E.C. standards for all services over 200 amps.

On services over 1800 amps

14.5.B The Customer or property owner shall install a secondary connection pedestal in which the Customer will be responsible for the final connections. The secondary connection pedestal will also be used as a metering point with the meter mounted on the outside of a cabinet.

14.5.C The customer or property owner shall be solely responsible for the ownership, installation, maintenance and replacement of all components of the electric distribution system located beyond the Point of Delivery.

14.5.D The customer or property owner shall install concrete-filled, eight inch (8") steel posts to protect the service transformer and the metering installation where WMU determines that it is required for safety. Upon the Customer's or property owner's written request, WMU may approve other forms of protection.

14.5.E Where applicable, the Customer shall provide the necessary equipment for mounting current transformers (see Section 30).

14.6 All meters shall be located outside of the structure unless prior written authorization approving inside installation is obtained from WMU.

14.7 Meters shall be installed so that the center of the meter is between forty inches (40") and sixty-six inches (66") above the final grade.

14.8 Meters shall be located so that there will be no obstructions for meter reading, meter testing or other maintenance.

SECTION 15: GENERAL DESIGN GUIDELINES (Commercial & Industrial)

15.1 WMU shall provide only one electric service connection to any structure.

15.2 WMU shall provide only one standard class of service to any structure.

15.3 Except as otherwise provided, all new electrical metering and switchgear installations shall be located in one location as close to the transformer as WMU determines to be reasonable.

SECTION 16: PLANS AND DRAWINGS

16.1 The owner, subdivider, builder or developer shall provide to WMU complete and accurate drawings and layouts for subdivisions, planned unit developments and any other projects requiring the installation or replacement of WMU electrical facilities.

16.2 The owner, subdivider, builder or developer shall provide WMU with complete architectural drawings for any commercial project for which the City is reviewing a permit application.

16.2.A Such drawings shall include:

(i) The requested service voltage;

(ii) The service entrance amp rating;

(iii) The connected load (in kW) broken down by load type;

(iv) The electrical switchgear and metering lineup;

(v) The one-line diagram; and

(vi) The specifications for the HVAC equipment, etc.

SECTION 17: BALANCING LOADS

17.1 All separate electric loads within a service shall be balanced.

17.2 Where three-phase services are provided, single-phase loads shall be evenly divided between each of the three phases as the voltage permits.

17.3 Where single-phase services are provided, the load shall be evenly divided between the energized conductors.

SECTION 18: ELECTRIC MOTOR INSTALLATIONS

18.1 In an effort to ensure that adequate power quality is maintained on WMU's distribution system, the following rules apply to all new connections of motor loads. All installations of electrical power loads on the WMU'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.

18.2 Protective Devices
Customers must provide suitable protective devices for motors and equipment to prevent damage caused by improper or dangerous operation in case of overload, loss of voltage, low voltage, and single-phasing of polyphase motors, reversal of phase-rotation of polyphase motors or the re-establishment of normal service after any of the above. WMU is not responsible for motor or equipment damage caused by any of the above conditions.

18.3 Large Motor Application
All motors in excess of 5 horsepower single-phase and 25 horsepower three-phase shall be installed with soft start. WMU reserves the right to limit the number and size of motors installed on single-phase and three-phase services.

SECTION 19: POWER FACTOR

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

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

19.3 WMU will calculate the power factor as necessary by installing electronic metering capable of determining power factor.

SECTION 20: CUSTOMER EQUIPMENT

20.1 The Customer is responsible for selecting and installing motors, apparatus and devices which are suitable for operation with the character of the service available and supplied by WMU.

20.2 WMU hereby reserves the right and authority to gain access to inspect and test any Customer-owned equipment that is connected to WMU's system.

20.3 WMU shall be the sole authority in determining whether any Customer-owned equipment connected to WMU's system is causing a harmful or unexpected effect on the quality of service provided by WMU to its Customers.

20.4 WMU hereby reserves the right and authority to require the Customer to install, at Customer's sole expense, any equipment which WMU determines is required to prevent any harmful or unexpected effects on the quality of service provided by WMU to its Customers.

SECTION 21: FAULT CURRENTS

21.1 The Customer's service equipment and other devices shall be adequate to withstand and interrupt the maximum available fault current. There are locations within WMU's service area that may have a fault current exceeding 10,000 amps, including some single-family residences. Customer should contact WMU to determine maximum existing and future anticipated fault currents.

SECTION 22: PROTECTION OF CUSTOMER-OWNED EQUIPMENT

22.1 WMU does not guarantee the supply of electric service as to quantity or quality. Irregularities and interruptions may occur and WMU hereby disclaims any liability for any damages or lost business incurred by any such irregularities or interruptions.

22.2 The Customer may install circuit protection devices to protect against possible equipment damage at the Customer's sole expense and liability for the purchase, installation, use or misuse of any such devices.

SECTION 23: CONSTRUCTION PROCEDURES

23.1 The owner, subdivider, builder or developer shall provide WMU with a construction schedule so the electric distribution system can be installed in an orderly and timely manner.

23.2 The ground in which electric service will be located shall be brought to within four inches (4") of final grade. Utilities to be located beneath the electric service shall be installed prior to the installation of the electric distribution system.

23.3 The owner, subdivider, builder or developer shall provide WMU with a clear, unobstructed path across the property as required for the installation of the on-site electric distribution system.

23.4 Prior to the actual construction, the developer or Customer shall provide:

23.4.A Final grades (where electric service will be installed)

23.4.B Staking for all lots located in the subdivision or development

23.4.C Requested easements

23.4.D Payment of the Facility Installation Charge (when required)

Attention: Failure to complete any of the above items may result in construction delays.

23.5 The owner, subdivider, builder or developer shall be responsible for the cost of moving or rebuilding any facilities as a result of their errors, omissions or changes.

23.6 The owner, subdivider, builder or developer shall coordinate the installation of streets so that WMU can install street crossing conduits before the road base is constructed.

23.6.A The owner, subdivider, builder or developer shall provide WMU with no less than thirty (30) days' notice to make the necessary street crossing installation(s).

23.6.B When the owner, subdivider, builder or developer fails to coordinate such street installations with WMU, they shall be jointly and severally responsible for additional costs incurred by WMU as a result of boring, tunneling, street repairs, etc.

23.7 When, in the sole judgment of WMU, difficult installation conditions exist, such as frost, rock, ledge, etc., WMU shall not be bound by any construction schedule which may have been stated, written or otherwise implied. Such installations may also be subject to additional charges as determined by WMU.

23.8 Prior to the start of construction, the owner, subdivider, builder, or developer shall arrange for a site inspection with WMU and any communications access provider (*i.e. telephone and C.A.T.V.)* To determine the suitability of the site. Suitability will be at the sole discretion of WMU.

23.9 The owner, subdivider, builder or developer shall be solely responsible for any additional costs incurred by WMU to remobilize WMU's construction crew if such work is stopped because WMU determines that a portion of the site is not suitable for construction of the electric distribution system.

23.10 WMU shall schedule its work after all necessary easements are granted and the project site is ready as determined by WMU.

SECTION 24: GOPHER STATE ONE CALL

24.1 In accordance with State Statute, WMU is connected to the Minnesota Gopher State One Call System.

24.2 All requests for locating underground facilities should be made at least 48 hours in advance of the excavation. The excavation notice may be made by calling the Gopher State One Call at 1-800-252-1166 or 811. Locates may also be submitted on line at www.gopherstateonecall.org. You will be asked to provide the following information:

24.2.A Name of the individual calling.

24.2.B Precise location of the proposed excavation.

24.2.C Name, address and telephone number of the excavator.

24.2.D Excavator's field telephone number.

24.2.E Type and extent of proposed excavation.

24.2.F Any anticipated use of explosives.

24.2.G Date and time when excavation is to commence.

24.3 An excavation is defined as any activity that disturbs the soil by use of machine-powered equipment or explosives. Excavation does NOT include:

24.3.A Installation of agricultural drainage tile.

24.3.B Extraction of minerals.

24.3.C Opening of a grave in a cemetery.

24.3.D Street maintenance that does not change the original grade or involve the ditch.

24.3.E Farm activities that disturb the soil to a depth less than 18 inches.

24.3.F Landscaping or gardening to a depth less than 12 inches.

24.4 Any damage to the electric distribution system occurring during excavation must be reported immediately by calling WMU at (507) 831-6151 during regular office hours or Dispatch at (507) 831-6134 after regular hours, and on weekends and holidays.

SECTION 25: ELECTRIC UTILITY FACILITY INSTALLATION

25.1 All permanent electrical cables shall be installed underground.

25.2 All new distribution facilities shall be installed so that they are capable of being looped.

25.3 WMU hereby reserves the right to install temporary or emergency facilities in the most economical manner using accepted engineering principles and practices.

25.4 To preserve easements and right of ways, WMU encourages joint trench with communication facilities in as much as feasible. WMU will work with all communication providers in planning and installation of facilities. shall have a FIC for trenching, handling and other labor involved in joint trenching.

SECTION 26: TEMPORARY SERVICE

26.1 WMU will provide temporary service to any Customer where such service may be provided from WMU's existing electric distribution system. When a Customer applies for routine temporary service, the Customer shall provide an approved meter socket and maintain suitable equipment for a service entrance. All required service conductors shall be sized in accordance with all applicable codes.

26.2 The Customer shall pay a temporary service connection fee for single-phase temporary service in addition to regular monthly charges at the applicable service rate.

26.3 The Customer shall pay a temporary service connection fee for three-phase, temporary service in addition to regular monthly charges at the applicable service rate.

26.4 Temporary service requests that do not conform to the conditions specified above may be granted at the sole discretion of WMU. The Customer shall reimburse WMU for all costs associated with installing and removing such "non-routine" temporary services.

26.5 Temporary service is intended for limited use only and should not exceed a period of one year.

26.6 Permanent service entrance equipment shall be installed as soon as practicable.

SECTION 27: SPECIAL EQUIPMENT

27.1 When the Customer’s service demands include the use of electrical service to operate equipment or devices which create a high demand on the operation of WMU facilities for a relatively short period of time, WMU may determine that the installation of special equipment may be required to maintain satisfactory service. In all such cases, the Customer shall reimburse WMU for costs incurred to purchase special equipment or facilities.

SECTION 28: AUXILIARY POWER SUPPLY

28.1 Where the Customer provides an auxiliary power supply, an adequately sized "double-throw disconnecting device" must be provided to open all ungrounded conductors from the normal supply before connection is made to the emergency supply in accordance with the requirements of the latest edition of the National Electric Code.

28.2 Customer auxiliary power supply equipment may be allowed to be “soft loaded” onto and off of the WMU electrical grid with the approval of WMU.

SECTION 29: COGENERATION EQUIPMENT

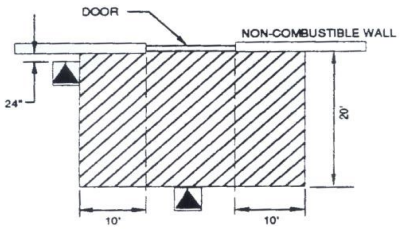
29.1 The use of any cogeneration equipment requires a separate written agreement between the Customer and WMU. Please refer to The Distributed Generation Interconnection Guidelines (APPENDIX B), The Contract For Cogeneration And Small Power Production Facilities (Under 40 KW) (APPENDIX C), and any City Ordinances covering Cogeneration.

SECTION 30: LOCATION OF PAD-MOUNTED TRANSFORMERS

30.1 Non-Combustible Walls (included in this class would be wood-framed brick-veneered buildings, metal-clad steel-framed buildings, asbestos-cement-board-walled metal-framed buildings and masonry buildings).

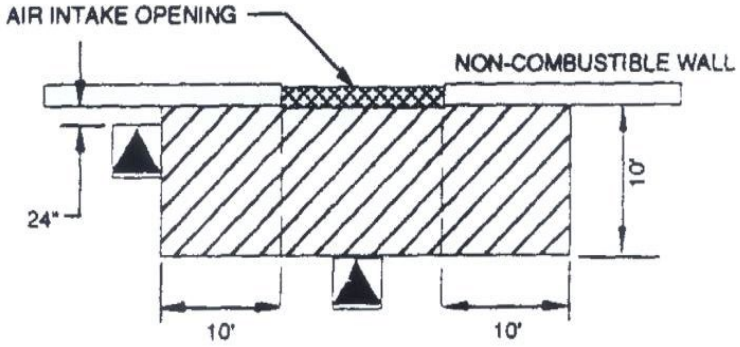
30.1.A Doors:

Pad-mounted oil insulated transformers shall not be located within a zone extending 20' outward and 10' to either side of a building door.



30.1.B Air Intake Openings:

Pad-mounted oil insulated transformers shall not be located within a zone extending 10' outward and 10' to either side of an air intake opening located at the level of the transformer. If the air intake opening is located above the transformer level, the distance from the transformer to the opening shall be a minimum of 25'. The term "level of the transformer" is to be interpreted as within 10" of the ground.

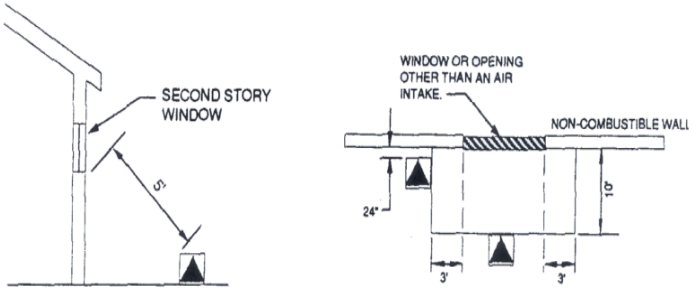


30.1.C Windows or Openings Other Than Air Intake
First Story:

Pad-mounted oil insulated transformers shall not be located within a zone extending 10' outward and 3' to either side of a building window or opening other than an air intake.

Second Story:

Pad-mounted oil insulated transformers shall not be located less than 5' from any part of a second-story window or opening other than an air intake.



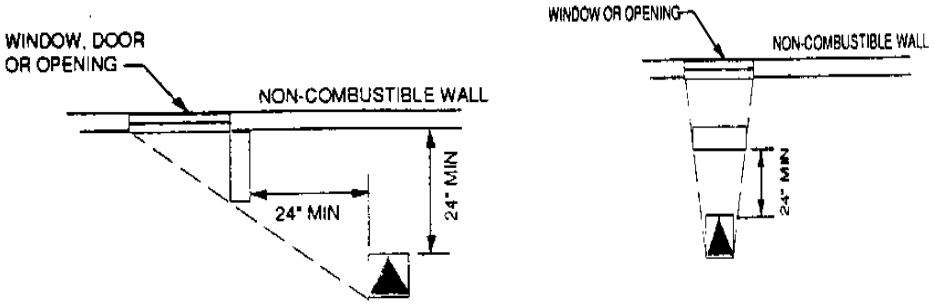
30.2 Combustible Walls: (Included in this class would be wood buildings and metal clad buildings with wood frame construction.)

30.2.A. Pad-mounted oil insulated transformers shall be located at a minimum of 10' from the building's wall in addition to the clearance from building doors, windows and other openings set forth for non-combustible walls. The immediate terrain adjacent to the transformer shall be sloped away from the building.

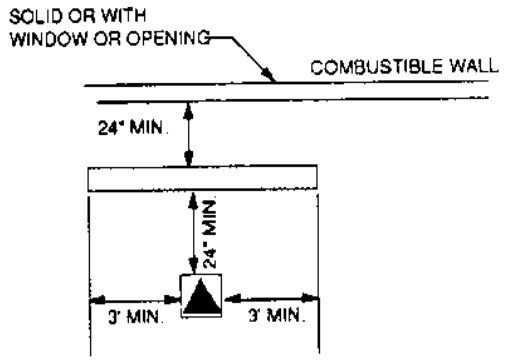
30.3 Barriers: (included in this class are reinforced concrete, brick or concrete block barrier walls.)

30.3.A If the clearance specified above cannot be obtained, a fire resistant barrier shall be constructed in lieu of the separation. The following methods of construction are acceptable:

(i) Non-Combustible Walls: The barrier shall extend to a projection line from the corner of the pad-mount to the furthest corner of the window, door or opening in question. The height of the barrier shall be 1' above the top of the pad-mounted transformer.



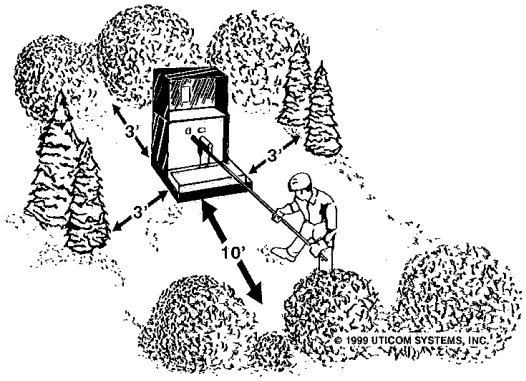
(ii) Combustible Walls: The barrier shall extend 3' beyond each side of the pad-mounted transformer. The height of the barrier shall be 3' above the top of the pad-mounted transformer. If a combustible first floor overhang exists, the 24" specified shall be measured from the edge of the overhang rather than from the building wall.



30.4 Fire Escapes: Pad-mounted oil insulated transformers shall be located such that a minimum clearance of 20' is maintained from fire escapes at all times.

30.5 Decorative combustible enclosures (fence) installed by the Customer around pad-mounted transformers adjacent to a combustible building wall shall not extend more than 24" beyond the transformer towards the combustible wall. A 10' clearance is required in front of the pad-mount transformer doors. Adequate transformer accessibility and ventilation must be provided.

30.6 Minimum clearances around pad-mounted transformers and equipment shall be 10' in front and 36" along the sides and back. Fences, shrubbery and trees may be installed by the customer provided the specified clearances are maintained, the grade is not altered and the underground cables are not endangered.



30.7 On new installations, clearances around metallic power equipment and communications apparatus (pedestals, terminals, apparatus cases, transformer cases, etc.) shall be a minimum of 6' as per the NESC (Sec. 35-350-F).

SECTION 31: CUSTOMER BILLING, RATES, AND FACILITIES INSTALLATION CHARGES (FIC)

31.1 Electrical rates have been established for various Customer classes by the Windom Utility Commission.

31.2 A full description of each of the electrical service rates and Facilities Installation Charges (FIC) can be obtained at the WMU business office.

31.3 WMU assesses FIC on all new primary and secondary installations. The facility has to be located on the public right of way or on a granted utility easement. WMU typically charges for material only on new individually metered residential services. Commercial and Industrial customers will be charged material and installation on new services.

31.4 Customer Billing: Bills will be mailed to the customer's billing address by the 6th of each month and will have an invoice date of the 8th of the month. Customers who have elected through the online portal to receive electronic bills may receive their bills before the 8th of each month.

Full payment on bills for City services is due by the 30th of each month. Unpaid balances after the 30th are considered past due. Past due balances are subject to 5% late fee on the entire past due balance. Failure to receive a bill shall not exempt the customer from prompt payment of his or her account.

31.5 Meter Prepayment: Meter Prepayment will be required unless you are the owner of the property. If the customer is a new renter or purchasing property on contract for deed and does not have a current account in good standing, a meter prepayment is required. The meter prepayment shall be as set by Windom Utility Commission. The service will be placed in the new customer's name only upon application for service and receipt of meter prepayment.

31.6 Service Connect Charges: A service connection charge of $25.00 shall be paid for all connects. If the service is reconnected during off-duty hours, a $75.00 service charge will apply.

31.7 Disconnect for Non-Payment: In the event that actual disconnection of service is necessary due to non-payment of a bill.. A service charge of $25.00 for disconnection of each electric service will apply. If services are reconnected, the service connect charges in 31.6 will apply.

31.8 Refusal of Utility Service: Utility service may be refused for one or more of the following reasons:

31.8.A An Applicant is indebted to the City of Windom for past bills incurred and refuses to liquidate the debt;

31.8.B An applicant refuses to pay a prepayment;

31.8.C An applicant, although he is not personally liable to the utility, is attempting to return service to an indebted household and no arrangements have been made to liquidate the debt of that household;

31.8.D An applicant is unwilling to provide correct information or identification;

31.8.E An applicant is in violation of state statutes or utility rules concerning evasion of payment, use of service for unlawful purposes, interference with or destruction of service facilities, or violation of service regulations.

31.9 Disconnection of Utility Service: The City of Windom will not make indiscriminate disconnections or reconnections.

Nonpayment of past due bill is reason for disconnection. Following is a list of conditions, all of which must be satisfied before a customer may be disconnected for nonpayment of a bill:

31.9.A The customer has received a payment period of not less than 15 days from billing transmittal date to due date and an additional notice period of not less than 5 days during

which the particular bill has been owed. The payment period may also be waived in cases of customer fraud or illegal use or when it is clear that the customer has left or is preparing to leave without paying a past due bill.

31.9.B There is no bona fide and just dispute surrounding the bill. A bona fide and just dispute is one that is appealed to the Windom Utility Commission. A dispute shall not be defined as bona-fide and just if a subscriber does not pay the undisputed portion.

31.10 Other reasons for disconnection: A utility may disconnect a customer after reasonable notice for any of the following:

31.10.A Violation of Section 31.8.C and 31.8.E

31.10.B Failure to comply with an agreement to liquidate a continuing debt as described in Section 31.9.B "Nonpayment of past due bills as reason for disconnection".

31.10.C Failure to pay an increased prepayment or a prepayment.

31.10.D Failure to grant the utility access to read meters, inspect the utility's facilities and conduct investigations for hazardous conditions.

31.11 The disconnecting act: Service shall not be disconnected on any Friday, unless the customer fails to meet a previous payment agreement or declines to enter into a payment agreement offered that day in person or via personal contact by telephone by a municipal utility associate, Saturday, Sunday, legal holiday, or at any time when the utility's business offices are not open to the public.

31.12 Last minute payments: The customer shall have the right to pay any delinquent bill at any time during business hours prior to disconnection in order to preserve uninterrupted service. If the utility representative who enters the customer's premises to disconnect does not have the authority to collect bills, he or she may arrange for payment and service may not be disconnected.

31.13 Residential winter disconnection: Notwithstanding the provisions of Section 31.9 "Nonpayment of past due bills as reason for disconnection" and "Other reasons for disconnection". The utility will not disconnect residential service from October 15th to April 15th without adding to the time periods of subdivision "Nonpayment of past due bills as reason for disconnection" an additional 20 days before disconnecting that service. To avoid disconnections, the customer must meet and agree to the requirements of the Cold Weather Statue. Service shall not be disconnected on any Friday (unless the customer fails to meet a previous payment agreement or declines to enter into a payment agreement offered that day in person or via personal contact by telephone by a municipal utility associate), Saturday, Sunday, legal holiday, or at any time when the utility's business offices are not open to the public.

31.14 Residential medical emergency: Notwithstanding the provisions of Section 31.9 "Nonpayment of past due bills as reason for disconnection" and "Other reasons for disconnection", the utility shall postpone the disconnection of utility service to a residential customer for 5 days from the notice of a physician's certificate or a notice from a public health or social service official which states that disconnection of service will aggravate an existing medical emergency to the customer, a member of his family, or other permanent resident of the premises where service is provided. A customer whose account is in arrears must contact the utility and enter into a payment agreement with the utility. Medical notices may not extend past 6 months. Service shall not be disconnected on any Friday (unless the customer fails to meet a previous payment agreement or declines to enter into a payment agreement offered that day in person or via personal contact by telephone by a municipal utility associate), Saturday, Sunday, legal holiday, or at any time when the utility's business offices are not open to the public.

SECTION 32: INTERRUPTION AND TERMINATION OF SERVICE

32.1 Planned interruptions of service in the normal course of business will be prearranged with the Customer whenever practical.

32.2 WMU hereby reserves the right to curtail or temporarily interrupt a Customer's service when WMU determines that repairs, replacement or modification of WMU's facilities are required either on or off the Customer's premises.

32.3 WMU hereby reserves the right to interrupt the supply of service to Customers in the case of emergencies or whenever such interruption is required to comply with an order from any jurisdictional authority.

32.4 WMU hereby reserves the right to terminate electrical service or disconnect the Customer from the electric system when WMU or any jurisdictional authority determines that the Customer-owned equipment is unsafe or is causing an unsafe condition.

32.5 WMU may terminate any Customer's service for nonpayment of funds owed to WMU. As allowed by State Statute.

32.6 WMU may terminate any Customer's service if WMU determines the Customer has illegally diverted any source of energy or has permitted, approved of, or benefited from such a diversion.

32.7 WMU may terminate any Customer's service if WMU determines that Customer-owned equipment is causing or may cause damage to WMU's equipment or facilities, or that the Customer's continued connection to WMU's system may cause power quality problems for any other WMU Customer.

32.8 WMU shall not be liable for any loss or damage to property resulting directly or indirectly from any interruption or termination of electric service for any reason. Customers requiring service reliability and/or stability exceeding WMU's normal service should consider uninterruptible power supplies, isolation transformers, power conditioners, redundant services or other options to provide the level of service required.

SECTION 33: STREET AND SECURITY LIGHTING

33.1 WMU designs, maintains and upgrades the street lighting systems on all City streets.

33.2 All new and replacement street light fixtures will be light-emitting diode (LED) type.

APPENDIX A

SUMMARY OF WMU AND CUSTOMER RESPONSIBILITIES FOR PROVIDING, INSTALLING & MAINTAINING ELECTRIC FACILITIES

RESIDENTIAL & COMMERCIAL SERVICE 200 AMPS AND UNDER

WMU Responsibilities:

- Provide and install all primary cable, transformer pads and pad-mounted transformers (subject to FIC)
- Make all primary terminations and connections
- Provide and install secondary cable (subject to FIC)
- Provide meter socket and meter (subject to FIC)
- Make connection to the secondary terminals of the transformer and energize service only after State of Minnesota Electrical Inspector has inspected and approved Customer wiring (subject to FIC)
- Perform all required maintenance on the electric distribution system up to the meter socket

Customer Responsibilities:

- Contact WMU to consult on location of service entrance and complete an Application for Service and other documents as required by WMU
- Provide necessary easements and clear installation path of all obstructions
- Bring area to final grade prior to installation of the electric distribution system (adjustments required after installation due to grade changes will result in additional charges)
- Provide trench compaction after the installation of the on-site electric distribution system
- Provide and maintain all required clearances
- Provide required access to WMU at all reasonable hours
- Provide and install protection posts as required by WMU
- Protect WMU facilities from damage during construction period
- Obtain completed Contractor or Registered Employer Request for Electrical Inspection Form
- Install and maintain WMU-provided meter socket in an approved location (meter socket subject to FIC)
- Provide and install riser conduit from service drop to meter socket

MULTIPLE METER INSTALLATIONS (Apartments)

WMU Responsibilities:

- Provide and install all primary cable (maybe subject to FIC)
- Make all primary terminations and connections (maybe subject to FIC)
- Make connection to the secondary terminals of the transformer and energize the service only after State of Minnesota Electrical Inspector has inspected and approved Customer wiring (subject to FIC)

Customer Responsibilities:

- Contact WMU to consult on location of multiple meter bank assemblies and complete an Application for Service and other documents as required by WMU
- Provide necessary easements and clear installation path of all obstructions
- Bring area to final grade prior to installation of the electric distribution system (adjustments required after installation due to grade changes will result in additional charges)
- Provide trench compaction after the installation of the on-site electric distribution system
- Provide and maintain all required clearances
- Provide required access to WMU at all reasonable hours
- Provide and install protection posts as required by WMU
- Protect WMU facilities from damage during construction period
- Provide and install multiple meter bank assemblies
- Provide transformer pad
- Provide, install and maintain all secondary cable to interior multiple meter bank assemblies
- Label, tag or otherwise mark each meter socket to identify the specific location served by each meter
- Obtain completed Contractor or Registered Employer Request for Electrical Inspection Form

MOBILE HOME PARKS

WMU Responsibilities:

- Provide and install all primary cable, transformer pads and pad-mounted transformers (subject to FIC)
- Make all primary terminations and connections (maybe subject to FIC)
- Provide, install and maintain all secondary cable to exterior multiple meter bank assemblies or to WMU service disconnects, as applicable (subject to FIC)

- Make connection to the secondary terminals of the transformer and energize service only after State of Minnesota Electrical Inspector has inspected and approved Customer wiring (subject to FIC)

Customer Responsibilities:

- Contact WMU to consult on location of multiple meter bank assemblies and complete an Application for Service and other documents as required by WMU
- Provide necessary easements and clear installation path of all obstructions
- Bring area to final grade prior to installation of the electric distribution (adjustments required after installation due to grade changes will result in additional charges)
- Provide trench compaction after the installation of the on-site electric distribution system
- Provide and maintain all required clearances
- Provide required access to WMU at all reasonable hours
- Provide and install protection posts as required by WMU
- Provide completed Contractor or Registered Employer Request for Electrical Inspection Form
- For new or relocated mobile homes, obtain wiring approval from State of Minnesota Electrical Inspector prior to requesting service connection from WMU
- Provide, install and maintain meter sockets that conform to NEC requirements for mobile home use

COMMERCIAL & INDUSTRIAL SERVICE OVER 200 AMPS

WMU Responsibilities:

- Provide and install all primary cable and pad-mounted transformers (maybe subject to FIC)
- Make all primary terminations and connections (maybe subject to FIC)
- Provide meter socket, current transformers and meter (subject to FIC)
- Assists with the connection to the secondary terminals of the transformer
- Energize service only after State of Minnesota Electrical Inspector has inspected and approved Customer wiring

Customer Responsibilities:

- Contact WMU to consult on location of service entrance and complete an Application for Service and other documents as required by WMU

- Provide necessary easements and clear installation path of all obstructions
- Bring area to final grade prior to installation of the electric distribution system (adjustments required after installation due to grade changes will result in additional charges)
- Provide trench compaction after the installation of the on-site electric distribution system
- Provide and maintain all required clearances
- Provide required access to WMU at all reasonable hours
- Provide and install protection posts as required by WMU
- Protect WMU facilities from damage during construction period
- Provide and install all secondary cables and conduit from the point of delivery (usually transformer) to the building service entrance
- Provide and install an exterior current transformer enclosure and a 1" conduit from the current transformer enclosure to the meter socket
- Install WMU-provided meter socket in an approved location
- Obtain completed Contractor or Registered Employer Request for Electrical Inspection Form
- On services over 1800 amps, furnish a secondary connection pedestal which will also be used as a metering point with the meter mounted on the outside of cabinet
- On services over 1800 amps, the Customer will be responsible for all secondary connections

APPENDIX B

DISTRIBUTED GENERATION INTERCONNECTION GUIDELINES

WINDOM MUNICIPAL UTILITIES
WINDOM, MINNESOTA

SCOPE AND PURPOSE

This document is intended to describe the requirements of Windom Municipal Utilities (WMU) regarding connection to its system of customer-owned distributed generation equipment. The guidelines are intended to develop the minimum requirements for connection of such equipment to the WMU system, and are not intended to be exhaustive. Each installation will be reviewed by WMU staff, and additional requirements may be placed on the installation under special circumstances.

This document is intended to describe certain equipment that will be necessary in order to insure that the level of service provided to WMU's customers is not degraded by the installation of the proposed distributed generation equipment. It is also intended to ensure that safe operations of both the generation equipment and WMU's existing distribution system are maintained.

Since this is a rapidly developing and changing field, it is expected that these guidelines will be updated periodically to reflect new technologies or industry standards. WMU reserves the right to require compliance with new guidelines should they be issued in the future.

STANDARDS

The requirements developed in this document are intended to comply with the following standards and regulatory bodies.

- Emerging IEEE Standard 1547
- State and Federal Regulatory Agency Requirements
- Requirements of WMU's power suppliers and transmission agents
- National Electric Safety Code (latest version)
- National Electrical Code (latest version) - if applicable
- IEEE Standard 519

CLASSIFICATIONS OF INSTALLATION

Three types of distributed generation connections covered in this document are as follows:

- Open transition
- Closed transition/short-term parallel
- Closed transition/long-term parallel

Open Transition:

An open transition involves the disconnection of the utility from the customer's load prior to transferring the load to the customer's generator. The customer experiences a momentary interruption of power while the transfer is being made. At no time is the customer's generator attached to the WMU's distribution system.

Closed Transition/Short-term Parallel:

This arrangement allows a momentary connection of the customer's generator with the WMU's system during the time the customer load is being transferred from the utility to the customer's generation equipment. Once the transfer is made, the WMU system is disconnected from the customer load during the time the generator is operating. The length of time in which the generator and the WMU system are connected is very short. In this arrangement, the customer does not experience an interruption of service while the transition to and from the generator is being made.

Closed Transition/Long-term Parallel:

This arrangement allows long term connection of the customer's generation with the utility. Examples of Closed Transition/Long-term Parallel would include solar and wind.

DISCONNECTING DEVICE

Each generating installation shall have a three-phase disconnecting device of suitable voltage and current rating to allow disconnection of the generating facility from WMU's system. The characteristics of this device are dependent on the proposed operating mode of the generation equipment.

Open Transition:

For an open transition installation, a transfer switch or equivalent arrangement utilizing the "break before make" operating characteristics shall be provided. This device shall ensure that the local customer load bus is disconnected from WMU's system prior to closing the connection to the generator.

Closed Transition/Short-time Parallel:

A three-phase device suitable for protective relay operation shall be provided for any installation that involves paralleling of the generation equipment with the WMU

system. The required equipment for the utility side device shall be a three-pole circuit breaker suitable for interruption of load and fault current. The device shall be electrically operated such that protective relaying (described below) can initiate disconnection of the generator installation from WMU's system when a fault is sensed on \WMU's system.

PROTECTIVE RELAYING

It is essential that the delivery of power from the generating equipment into WMU's system, for however brief a time, be done in a manner to minimize hazards to adjacent property. It is essential that the generating facility be taken off line from WMU's system immediately whenever a fault is detected on WMU's system. Further, it is critical that the tie to WMU's system be separated whenever WMU's system experiences an outage (no "islanding" can be allowed).

The protective devices listed below are intended to protect WMU's system only. Protection of the generation equipment is the responsibility of the generation equipment owner.

Various protective relaying functions are required for any arrangement that involves a closed transition or parallel operation of the generating unit with WMU's system. The following are the minimum protective functions that must be present on the utility tiebreaker looking out onto WMU's system.

- Phase over-current protection
- Over voltage protection
- Under voltage protection
- Over frequency protection
- Under frequency protection
- Ground fault protection
- Reverse power protection

Many of the above functions can be incorporated into a multi-function electronic relay.

For all installations over 40 kW of nameplate-generated capacity, the relays must be utility grade (not industrial grade). Proposed equipment must be approved by WMU.

AUXILIARY EQUIPMENT

WMU will review the proposed installation and determine if modifications to its equipment are necessary. If WMU determines that changes to its equipment are required to accommodate the distributed generation equipment, the changes will be made by WMU with all or part of the cost assessed to the customer. WMU will provide an estimate of the cost prior to proceeding.

COORDINATION WITH WINDOM MUNICIPAL UTILITIES' SERVICE POLICIES

This document is intended to comply with and be an amplification of Windom Municipal Utilities Service Rules and Policies handbook, particularly concerning Section 9, which deals with connection of generating facility to WMU's system. All required submittals, fees, forms, and the like described in that document shall apply.

APPENDIX C

CONTRACT FOR COGENERATION AND SMALL POWER PRODUCTION FACILITIES (UNDER 40 KW)

WINDOM MUNICIPAL UTILITIES
WINDOM, MINNESOTA

THIS CONTRACT is entered into this _____ day of_____ by WINDOM MUNICIPAL UTILITY (hereafter called "WMU") and, _____ Qualified Facilitator (hereafter called "QF").

The QF has installed electric generating facilities, consisting of _____
_____
_____
(Description of facilities), rated at less than 40 kilowatts of electricity, on property located at _____.

The QF is prepared to generate electricity in parallel with the WMU.

The QF's electric generating facilities meet the requirements of the Minnesota Public Utilities Commission (hereafter called "Commission") rules on Cogeneration and Small Power Production and any technical standards for interconnection the Utility has established that are authorized by those rules.

WMU is obligated under federal and Minnesota law to interconnect with the QF and to purchase electricity offered for sale by the QF.

A contract between the QF and WMU is required by the Commission's rules.

AGREEMENTS

The QF and the WMU agree:

1. WMU will sell electricity to the QF under the rate schedule in force for the class of customer to which the QF belongs.

2. WMU will buy electricity from the QF under the simultaneous purchase and sale billing rate. Purchases from the QF will not qualify for fuel adjustments. Purchases from WMU will be subject to fuel adjustments. A copy of the present rate schedule is attached to this contract.

3. The rates for sales and purchases of electricity may change over the time this contract is in force due to actions of WMU or the QF. Both parties agree that sales and purchases will be made under the rates in effect each month during the time this contract is in force.

4. WMU will compute the charges and payments for purchases and sales for each billing period. Any net credit to the QF will be made by credit to the QF account.

5. The QF must operate its electric generating facilities within any rules, regulations, and policies adopted by WMU not prohibited by the Commission's rules on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for the QF. This agreement does not waive the QF's right to bring a dispute before the Commission as authorized by Minnesota Rules, parts 7835.4800, 7835.5800, and 7835.4500, and any other provision of the Commission's rules on Cogeneration and Small Power Production authorizing Commission resolution of a dispute.

6. WMU rules, regulations, and policies must conform to the Commission's rules on Cogeneration and Small Power Production.

7. The QF will operate its electric generating facilities so that they conform to the national, state, and local electric and safety codes, and will be responsible for the costs of conformance.

8. The QF is responsible for the actual, reasonable costs of interconnection which are estimated to be $1,500.00. The QF will pay WMU in this way: by check prior to interconnection of generator to Utility system. Any future associated cost to WMU related to QF's interconnection with Utility will be paid for by the QF.

9. The QF will give WMU reasonable access to its property and electric generating facilities to confirm that the configuration of those facilities permits disconnection or testing from the WMU side of the interconnection. The QF shall, at its own expense, install an automatic disconnection to protect Utility workers in the event of an utility power outage. The utility will require the QF to have annual testing of the transfer switch to be performed by a qualified person and a record of the test shall be provided. If the WMU enters the QF's property, WMU will remain otherwise responsible for its personnel.

10. WMU may stop providing electricity to the QF during a system emergency. WMU will not discriminate against the QF when it stops providing electricity or when it resumes providing electricity.

11. WMU may stop purchasing electricity from the QF when necessary during an emergency or for WMU to construct, install, maintain, repair, replace, remove, investigate, or inspect any equipment or facilities within its electric system. WMU will notify the QF before it stops purchasing electricity in this way: email or telephone, provided that the QF has notified the utility of its phone number and e-mail address.

12. The QF will keep in force liability insurance against personal or property damage due to the installation, interconnection, and operation of its electric generating facilities. The amount of insurance coverage will be $2,000,000.

13. This contract becomes effective as soon as it is signed by the QF and the WMU. This contract will remain in force until either the QF or WMU gives written notice to the other that the contract is canceled. This contract will be canceled 30 days after notice is given.

14. This contract contains all the agreements made between the QF and WMU except that this contract shall at all times be subject to all rules and orders issued by the Public Utilities Commission or other government agency having jurisdiction over the subject matter of this contract. The QF and WMU are not responsible for any agreements other than those stated in this contract.

THE QF AND WMU HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE WRITTEN AT THE BEGINNING OF THIS CONTRACT.

Qualified Facilitator
By: _____
Its _____
WINDOM MUNICIPAL UTILITY, WMU
By: _____
Its _____