

UNITED COOPERATIVE SERVICES

SPECIFICATIONS FOR SELF-CONTAINED METER INSTALLATIONS

August 2014

A member may obtain a new, single phase service from the Cooperative by providing or purchasing a meter loop. A meter loop shall be defined as the service entrance conductor, conduit, weather-head, meter socket/base, and disconnecting switch/breaker. The meter loop will be furnished, maintained, and installed or contracted to be installed by the member on a Cooperative owned and installed pole.

As an option to our members, the Cooperative will install, at the member's expense (see attached pricing sheet), an approved meter loop on a Cooperative owned and installed pole. Only Cooperative personnel will be allowed to install a meter loop on a primary voltage pole (poles involving voltages of 750 volts phase to ground or larger). Again, these installations will be provided at the member's expense. In the event that a member does not want to purchase a loop from the Cooperative and wants to provide their own meter loop, United Cooperative Services will provide the meter socket/base for the meter loop.

All meter loops for overhead installation on a Cooperative-owned pole must have a minimum of 15 feet of conduit. Conduit may be required to be longer, depending on field conditions. The member should check with the Cooperative for proper conduit length. **All meter loops installed by Cooperative personnel shall be constructed of rigid aluminum conduit.**

Meter loop installations shall meet all of the following:

1. All current codes (National Electrical Safety Code and National Electric Code) as well as any and all other applicable local, State or Federal regulations or ordinances before the service will be energized by United Cooperative Services.
2. All meter loops must be equipped with a properly sized main disconnect that is installed in accordance with all applicable current codes and regulations. The main shall be located on the load side of the meter base, and shall be located as close as possible to the meter socket. Meters on houses or commercial buildings may utilize an indoor fused switch or breaker main, so long as the fused switch or breaker main is located in accordance with the current codes and regulations governing the placement of said fused switch or breaker main (Reference 2002 National Electric Code – Article 230.70). All meters located on poles must be connected to the member's wiring through a fused safety switch or breaker main. In this case, the fused safety switch or breaker main must be located on the same pole as the meter in a watertight enclosure (NEMA Type 4 compliant).
3. All new meter locations must be located in an area where they are readily accessible and are relatively free from possible mechanical damage. All meters shall be located so that they are available to the closest existing United Cooperative Services pole and all meter loops/bases must be surface mounted so as to allow for replacement or maintenance on the meter loop/base (i.e. meter loops/bases must not be rocked into the side of any buildings or made to be a permanent part of any structure).
4. Service entrance conductors must be copper only, and must be a minimum of No. 4 in size.
5. The connections to the meter socket base shall be watertight. A watertight entrance conduit or weather-head must be installed on the upper end of the conduit. The weather-head must extend to within 5-feet of the Cooperative's service wire attachment point and 60 inches of conductor must extend from the weather-head to reach the service wire attachment point.
6. All meter loops shall be grounded with a minimum of No. 6 copper conductor securely connected to a 5/8 inch diameter, 8-foot-long copper ground rod installed as per the governing codes. If the meter loop is purchased from United Cooperative Services, the ground rod will be provided and installed by the Cooperative. The grounding conductor shall be terminated on the neutral lug in either the meter base or the main disconnect, but not in both.
7. The member's wiring must be completed to the stage that a meter can be set and sealed without the need for later meter removal for completion of the member's wiring. The metering point must also be such that the authorized Cooperative employee making the connection is satisfied that energizing the connection will not cause an unsafe condition to people, livestock, or property or will create a violation of any regulatory code prior to being energized.
8. The point of attachment for the Cooperative's service wire must be high enough so that the ground clearance to any service wire conductor meets or exceeds the appropriate ground clearance requirement (see attached). All points of attachment shall be sturdy enough to securely hold the service wire with ice and wind loading (0.5" of radial ice and 4 lb/ft² of wind). On metal structures, the member shall provide and install an eyebolt for the appropriate service wire attachment.

With the exception of the Cooperative furnished meter, the Cooperative will not be responsible for the repair or replacement of the member-owned meter loops or points of service wire attachment. The Cooperative will de-energize any connection presenting a violation of regulatory codes, Cooperative specifications, or presenting a safety concern until the member can correct any such violations.

Overhead Clearance Requirements for Insulated, Single Phase Services
(From 2012 National Electrical Safety Code and the Texas Transportation Code)

1. Track rails of railroads (except electrified railroads using overhead trolley conductors) ^{1,2} -----	24.0 feet
2. Roads, streets, and other areas subject to truck traffic ³ -----	22.0 feet
3. Driveways, parking lots, and alleys ^{11,12} -----	16.0 feet
4. Other land traversed by vehicles, such as cultivated, grazing, forest, orchards, etc. -----	16.0 feet
5. Spaces and ways subject to pedestrians or restricted traffic only ^{4,13} -----	12.0 feet
6. Buildings	
a. Horizontal	
(1) To walls, projections, and guarded windows ^{5,6} -----	5.0 feet
(2) To unguarded windows ⁹ -----	5.0 feet
(3) To balconies and areas readily accessible to pedestrians ⁷ -----	5.0 feet
b. Vertical ¹⁰	
(1) Over or under roofs or projections not readily accessible to pedestrians ⁷ -----	3.5 feet
(2) Over or under balconies and roofs readily accessible to pedestrians ⁷ -----	11.0 feet
(3) Over roofs accessible to vehicles but not subject to truck traffic ³ -----	11.0 feet
(4) Over roofs accessible to truck traffic ³ -----	16.0 feet
7. Signs, chimneys, billboards, radio and television antennas, tanks, and other installations not classified as buildings or bridges.	
a. Horizontal ⁸	
(1) To portions that are readily accessible to pedestrians ⁷ -----	5.0 feet
(2) To portions that are not readily accessible to pedestrians ⁷ -----	3.5 feet
b. Vertical	
(1) Over or under catwalks and other surfaces upon which personnel walk -----	11.0 feet
(2) Over or under other portions of such installations ⁸ -----	3.5 feet

NOTES

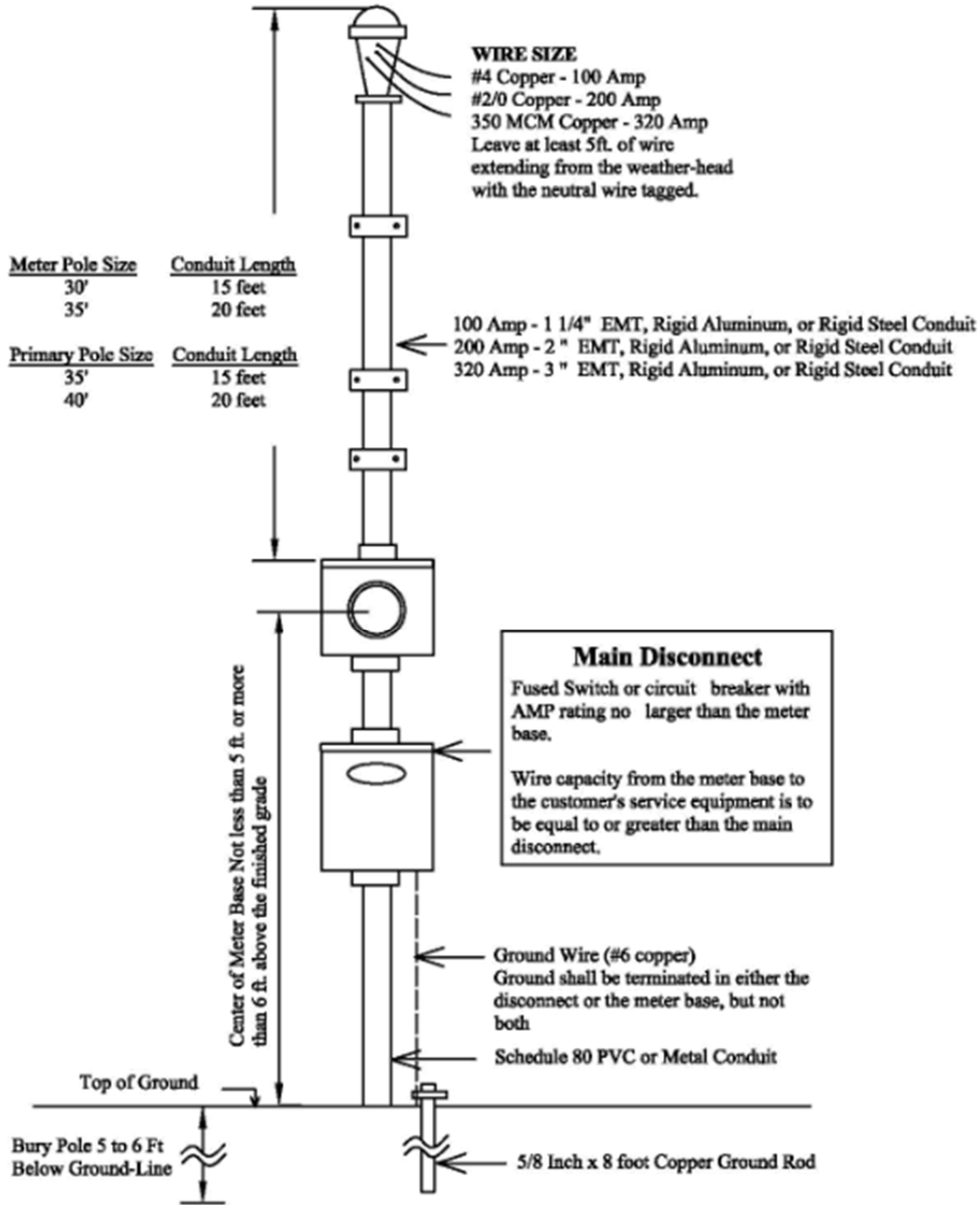
- ¹ For wires, conductors, or cables crossing over mine, logging, and similar railways that handle only cars lower than standard freight cars, the clearance may be reduced by an amount equal to the difference in height between the highest loaded car handled and 20 ft, but the clearance shall not be reduced below that required for street crossings.
- ² Adjacent to tunnels and overhead bridges that restrict the height of loaded rail cars to less than 20 ft, these clearances may be reduced by the difference between the highest loaded rail car handled and 20 ft, if mutually agreed to by the parties at interest.
- ³ For the purpose of this Rule, trucks are defined as any vehicle exceeding 8 ft in height. Areas not subject to truck traffic are areas where truck traffic is not normally encountered nor reasonably anticipated.
- ⁴ Spaces and ways subject to pedestrians or restricted traffic only are those areas where riders on horses or other large animals, vehicles, or other mobile units exceeding a total height of 8 ft are prohibited by regulation or permanent terrain configurations, or are otherwise not normally encountered nor reasonably anticipated.
- ⁵ Where building, sign, chimney, antenna, tank, or other installation does not require maintenance such as painting, washing, changing of sign letters, or other operations that would require persons to work or pass between wires, conductors, cables or unguarded rigid live parts and structure, the clearance may be reduced by 2 ft.
- ⁶ Where available space will not permit this value, the clearance may be reduced by 2 ft provided the wires, conductors, or cables, including splices and taps, and unguarded rigid live parts have a covering that provides sufficient dielectric strength to limit the likelihood of a short circuit in case of momentary contact with a structure or building.
- ⁷ A roof, balcony, or area is considered readily accessible to pedestrians if it can be casually accessed through a doorway, ramp, window, stairway, or permanently mounted ladder by a person on foot who neither exerts extraordinary physical effort nor employs special tools or devices to gain entry. A permanently mounted ladder is not considered a means of access if its bottom rung is 8 ft or more from the ground or other permanently installed accessible surface.
- ⁸ The required clearances shall be to the closest approach of motorized signs or moving portions of installations covered by Rule 234C of the 2007 National Electrical Safety Code.
- ⁹ Windows not designed to open may have the clearances permitted for walls and projections.
- ¹⁰ For clearances above railings, walls, or parapets around balconies or roofs, use the clearances required for line 6b(1). For such clearances where an outside stairway exists, use the clearances required for line 7b(2).
- ¹¹ Where this construction crosses over or runs along alleys, driveways, or parking lots not subject to truck traffic this clearance may be reduced to 15 ft.
- ¹² Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances over residential driveways only may be reduced to:
- | | |
|---|-----------|
| (a) Insulated supply service drops limited to 300 Volts to ground ----- | 12.5 Feet |
| (b) Insulated drip loops of supply service drops limited to 300 Volts to ground ----- | 10.5 Feet |
| (c) Supply service drops limited to 150 Volts to ground and meeting Rule 230C1 or 230C3 of the 2007 National Electrical Safety Code----- | 12.0 Feet |
| (d) Drip loops only of service drops limited to 150 Volts to ground and meeting Rule 230C1 or 230C3 of the 2007 National Electrical Safety Code ----- | 10.0 Feet |

NOTES (Continued)

¹³ Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances over residential driveways only may be reduced to:

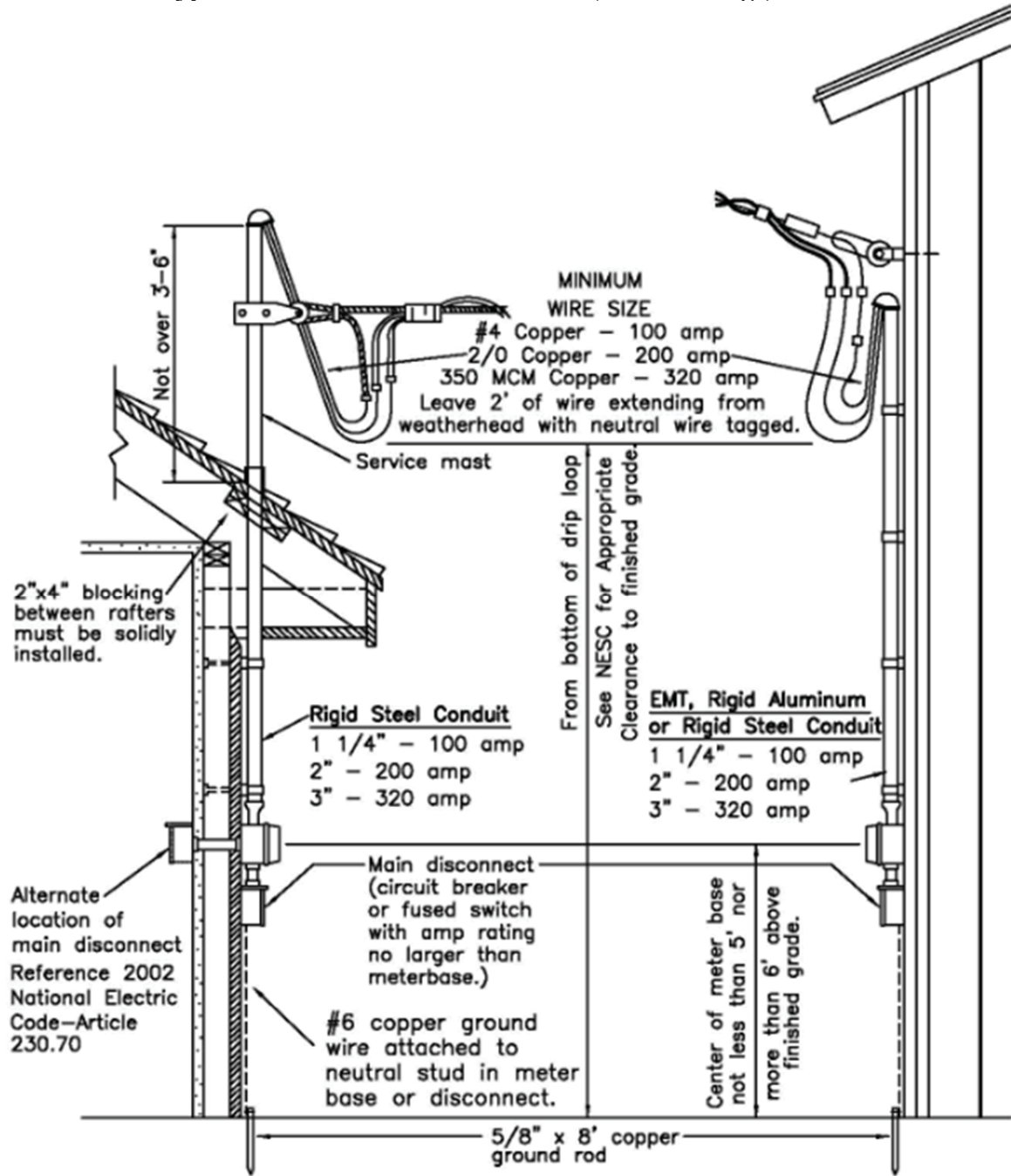
- (a) Insulated supply service drops limited to 300 Volts to ground and insulated drip loops of supply service Drops limited to 300 Volts to ground ----- 10.5 Feet
- (b) Supply service drops limited to 150 Volts to ground and meeting Rule 230C1 or 230C3 of the 2007 National Electrical Safety Code; or drip loops only of supply service drops limited 150 Volts to ground and meeting Rule 230C1 or 230C3 of the 2007 National Electrical Safety Code ----- 10.0 Feet

Meter Loop Specifications



If the Member pays to have United hang the Member's meter loop, then the loop **MUST** be constructed of RIGID ALUMINUM (not EMT or Rigid Steel)

Typical Overhead Service Entrance (For Dwellings) Guide



Typical Underground Service Entrance (For Dwellings) Guide

