




EPB Energy New Service Guidelines: Commercial Construction

SUBJECT: Commercial New Service Guidelines

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COMMERCIAL NEW SERVICE GUIDELINES

Contact EPB

- Call EPB at 423-648-1372
- Provide requested information
- Your assigned EPB representative will contact you the following business day

Provide EPB with Your Site Plan

- Site plan should include any required easements and all meter center locations
 - This can include facilities for service and proposed line relocations
- EPB will determine and install the appropriate electrical equipment necessary to supply service up to the primary transformers
- EPB's standard service is underground facilities including pad-mounted transformers
- Fill out the attached Available Fault Current Sheet which includes service voltage, connected kW, facility square footage and type of business and return to EPB in a "PDF" format. From this information, EPB will:
 - Determine the facilities required to supply service
 - Return the Available Fault Current Sheet to the customer with the calculated available fault current
 - Determine the amount of credit that will be given to offset the cost of EPBs construction. Any costs in excess of the credit will be applied to the customer in the form of a Sales Order or Contract that must be signed before construction can begin
 - Determine the deposit required to secure the account
 - Determine the kW amount of a power contract to be executed between the customer and EPB, if needed.
- An additional \$500 of credit will be applied per branch circuit dedicated to Electric Vehicle Charging. See "[EV CHARGER CREDIT & INCENTIVES](#)" for more information

Let us Know When Your Site is at Final Grade

- Prior to road paving, EPB will install primary facilities such as transformers, transformer structures cabling and secondary handholes
- EPB is responsible for excavating the trench, installing electrical facilities, backfilling the trench with original dirt and minimal compaction
- The customer is responsible for other backfill options and/or disposal of spoils as well as the installation of the service laterals from the meter equipment to the EPB's transformer structure
- If convenient and to reduce potential costs owed to EPB, you may excavate the primary cable trench yourself. Please contact your EPB representative for specifications.

Other Information

- After inspection authorities approve a meter center installation, EPB can be contacted at 423-648-1372 for account activation. EPB will then connect the service to the transformer.
- It is often the case that EPB is not the facility owner or not the only company utilizing the facility. One example is pole ownership could be EPB or another company and communication lines on the poles are not all EPB's. In these cases, it is the customer's responsibility to ensure all parties are involved when any relocation/removal of these facilities.



METERING GUIDELINES

General Metering Guidelines

- All meter centers will be served via underground services
- Previous metering installations will not necessarily provide as a guide for future and current jobs
- Meter centers and associated equipment must be mounted on the outside exterior wall or meter pedestal and be accessible by EPB for maintenance at all times
- The centerline of the meter socket must be 4-6 feet above the final grade. 30" minimum is allowed on underground, low profile installations.
- A 3 feet or greater working clearance is required in front of all meter centers and associated metering equipment cabinets
- All fasteners and hardware used to assemble and mount the meter center and equipment must be stainless and/or galvanized steel, tamper resistant, and removable using basic tools
- All exceptions to any of the guidelines or policies must be approved by EPB with written authorization
- Pre-wired metering in pad-mounted transformers are not being utilized by EPB. Limited exceptions must have written approval by EPB prior to installation

Meter Socket Types

Service Type	Instrument Transformers	Meter Socket Type
≤ 200 Amps ≤ 240 Volts	None	Self-Contained
> 200 ≤ 400 Amps ≤ 240 Volts	None	CL 320 Self-Contained
> 400 Amps ≤ 240 Volts	CTs Required	Instrument-Rated
> 240 Volts	CTs and VTs Required	Instrument-Rated

Self-Contained Metering Applications

- Contractor must purchase and install self-contained meter sockets
- Sockets must be the "plug in (S Base)" type. All three phase and 320A single phase meter sockets must have a bypass lever
- All commercial retail sockets must have a bypass lever to allow EPB to remove the meter without service interruption

Instrument-Rated Metering Applications (Overhead Services)

- Overhead services must have written approval from EPB
- Contractor must pick up meter socket and instrument transformers from EPB
- Contractor to mount meter socket and instrument transformers per instructions provided
- 1" conduit must be installed between meter socket and instrument transformers
- Metering equipment must be installed using lead anchors, toggle bolts, or masonry anchor screws. No plastic anchors or shoot-ins are allowed. Screws and bolts must be easily removed using ordinary hand tools



- Contractor must bond meter socket to the service equipment ground using a minimum of #4 bare solid copper ground conductor
- CTs must be mounted by the contractor with the white dot (H1) electrically facing the source side, or EPB side, of the service
- A minimum of 2.5" rigid or IMC conduit must be used if service attachment is placed on conduit
- Refer to the following information if a trans-socket or cabinet will be used on an overhead service
- See "[APPENDIX B](#)" for OH reference material

Instrument-Rated Metering Applications (Underground Services)

- Contractor must purchase and install a metering trans-socket cabinet from EPB if the service size is less than or equal to 1200 A
 - See "[TRANS-SOCKET INFORMATION](#)" Section for purchase information.
- Trans-socket must be installed using lead anchors, toggle bolts, or masonry anchor screws
 - No plastic anchors or shoot-ins are allowed
 - Screws and bolts must be easily removed using ordinary hand tools
- Contractor to mount trans-socket per instructions provided
- If service is above 1200 Amps, contractor must purchase and install an instrument transformer cabinet
 - The minimum size is 36"x36"x14", but cabinet must be sized appropriately considering the size of the conductors to ensure no unnecessary stress is placed on the conductors, the cabinet, or the CTs
 - Contractor must also comply with the NEC bending radius and conduit fill codes and requirements.
- Instrument cabinet must also be installed using lead anchors, toggle bolts, or masonry anchor screws
 - No plastic anchors or shoot-ins are allowed
 - Screws and bolts must be easily removed using ordinary hand tools
- Contractor must mount the instrument transformer bracket to the center of the cabinet's back plate and follow instructions as provided with the metering equipment
 - Bracket must be mounted in a way to allow the bracket to be replaced without removing the back-plate from the cabinet
- Instrument transformer cabinet must have a stainless or galvanized steel pad-lockable hasp
 - Cabinet must also have a hinged cover. All fasteners must also be stainless or galvanized steel.
 - See "[INSTRUMENT TRANSFORMER CABINET INFORMATION](#)" for more information

Trans-Socket Information

- Call 423-648-3427 to schedule a pick-up time
- Location for pick-up is:
 - EPB Field Services Department – Operations Center 2
 - 1350 E 8th Street
 - Chattanooga, TN 37403
- Trans-sockets are priced at \$650, and checks are to be made to EPB
- The dimensions are 37"x37"x14" and are for services up to 1200 A
 - The enclosure is to be mounted square and plumb, and no alterations are to be made other than holes for conduit
 - No taps are to be made within enclosure
 - Doors and covers must be able to swing freely
 - Place conduit to where no strain will be placed on any of the conductors or equipment
- Hanging bracket is located inside trans-socket enclosure and is there to aid in installation
- Conduit must be placed with 12" of each corner of the trans-socket



- Myers Hub must be used if conduit is placed on the top side of the trans-socket to ensure a NEMA 3R rating
- Trans-socket lugs can accommodate up to four 750 MCM conductors per phase
- Line side (EPB) is H1 side of CTs, and load side (customer) is H2 side of CTs

Instrument Transformer Cabinet Information

- CTs, VTs (if required), and meter socket are supplied by EPB at no cost and picked up at same location as trans-socket
- Contractor provides the instrument transformer cabinet
 - Cabinet must be stainless, galvanized, powder coated steel, or aluminum
 - A minimum of 14-gauge steel or 10-gauge aluminum must be used
- A hinged door with pad lock hasp for a 5/16" shank EPB lock must be used on any enclosures housing un-metered conductors
 - No screws or bolts are to be used to remove or open the door
 - Hinges and pad lock hasp must be mounted to be tamper resistant
- No custom keys will be allowed
- Size of cabinet is dependent on the number of conductors per phase, metering equipment, and electrical inspector requirements
- CT & VT brackets must be replaceable without removing the cabinet back plate
- Meter socket to be located adjacent to the instrument transformer cabinet
- Conductors are to be formed to where no strain is placed on any equipment, including the cabinet door

Module Home Services

- Meter center must be affixed to a minimum of 6"x6" pressure-treated wooden temporary pole or similar pedestal unless the modular home is placed on a fixed, permanent foundation
- If an underground service is used, meter pedestal must have at least 3 feet of working clearance for access to the meter

Multiple Services

- Any installations where multiple meter centers are used must have permanent labeling with the suite number or load description. For example: "Suite A5," "Building 6," "Pump B."
 - Label must match EPB's account records
 - Labeling must have a 3/4" inch or larger textured font, and attached to the meter socket with two rivets, screws or bolts that are either stainless or galvanized steel
 - Labels must be placed to avoid confusion if more than one meter center cover is removed
- Each service must have its own instrument transformer cabinet
 - For example, EPB does not allow for CTs to be placed in a wire trough serving multiple services instead of installing one cabinet per meter



Meter Equipment Security

- Instrument transformer cabinets, trans-sockets, switchgear and gutters that contain unmetered conductors and metering equipment must have sealing and/or locking provisions
 - All provisions for sealing and/or locking must be installed in a workmanlike and tamper-proof manner using stainless or galvanized hardware
- Unmetered conductors are not to be installed in the same conduit, wire-way or junction box as metered conductors.
- All locking provisions must be able to accept an EPB seal and/or an EPB lock
 - No other locks may be used that have different keys, codes, etc

Other Information

- If multiple conductors per phase are being utilized, all conductors must be the same physical length to the point of delivery with EPB. All conductors must also be of the same diameter (neutral must be sized in accordance with the NEC and local electrical inspector). All conductors must also be of the same material. Copper and Aluminum cannot be mixed unless they are serving separate switchgear. These requirements are to ensure that no single conductor in a multi-conductor per phase service bears a majority of the load.
- If you have any questions, please contact your EPB representative or call EPB Customer Service at 423-648-1372 and a representative will be assigned to your project.



EV CHARGER CREDITS & INCENTIVES

Residential Applications

- \$500 will be added to your New Growth Construction Credit for qualifying for this credit:
 - To qualify, a new home must include electric facilities necessary to support electric vehicle charging: 240V/40A outlet(s), the minimum standard for supporting Level 2 charging

Commercial Applications

- For each branch circuit, a \$500 credit will be added to the New Growth Construction Credit:
 - A branch circuit is defined as an electric wiring system that extends from the outlets back to the protective device

Additional EV Charging Incentive

- Apart from the \$500 credit per branch circuit, a \$2,000 or \$500 incentive per Electric Vehicle Charging Port can be obtained for installing appropriate Level 2 or DC Fast Chargers and communication capabilities
- For more information and qualifying details, please contact our Energy Services group at ES&Cadmin@epb.net to request information concerning EPB's Commercial Electric Vehicle Service Equipment Incentive or [visit our website](http://epb.com/ev-incentive) at epb.com/ev-incentive
- This incentive may be combined with the EV Charger credit

APPENDIX A (UG Reference Material)



Shown above is a metering cabinet for an underground service greater than 1200 A. Customer is responsible for providing the CT cabinet. EPB will provide the CTs and associated mounting brackets. Customer can purchase CT busses for each phase and neutral to provide a pull-point for the conductors. These busses are purchased from EPB and typically have a 5-6 week lead time from the manufacturer. The price of these busses is dependent on the amperage of the service and the number of conductors. Customer is responsible for the correct phasing, pulling the conductors up to, but not terminating, the secondary bushings of EPB's transformer, and ensuring that no strain is placed on the CT cabinet or CTs. Customer must also provide means for the CT control wiring to reach the meter center. In this case, see the 1" connector located on the right side of the cabinet. The meter center is located on the right outside wall of the cabinet.

APPENDIX B (OH Reference Material)



For overhead services containing multiple conductors per phase, EPB will supply a mounting bracket for the PED connectors as seen above. The customer is responsible for mounting the bracket, leaving sufficient length at the weather head, and correctly marking the load side phasing.

APPENDIX B (OH Reference Material) – cont'd



In this scenario, customer has provided ample length for EPB to connect the service, along with clearly marking the phases. Meter center was mounted to where the center of the meter face will be within 4-6 feet above the final grade



APPENDIX C (Available Fault Current Sheet)

To: EPB Energy
Engineering
PO Box 182255
Chattanooga, TN 37422-7255
Fax: 423-648-1233 or Email: buildershotline@epb.net

Date: _____

From: _____

Phone: _____

Email/Fax: _____

Project Name: _____

Address: _____

Type of facility: _____

Total occupied area (omit walks, patios, etc.) _____ Sq. Ft. Number of Units: _____

Type of service: Underground Overhead (by written exception only)

Size of main line switch (s) or service equipment: _____ Amps

Number of conduits: _____ Number of conductors per phase: _____ Conductor size _____

Requested Voltage: _____ # of wires (2, 3, or 4): _____ 1 Phase 3 Phase

Connected Load:

Lights (watts in entire facility)	_____	1 Phase <input type="checkbox"/>	3 Phase <input type="checkbox"/>
Air conditioning (tons, hp, kW)	_____	1 Phase <input type="checkbox"/>	3 Phase <input type="checkbox"/>
Heating (kW)	_____	1 Phase <input type="checkbox"/>	3 Phase <input type="checkbox"/>
Total motor load (hp)*	_____	1 Phase <input type="checkbox"/>	3 Phase <input type="checkbox"/>
Total other items (kW)	_____	1 Phase <input type="checkbox"/>	3 Phase <input type="checkbox"/>

* List all motors and their use, 10 hp and larger: _____

For additional space, use attachment. Attach site plan (if available) and indicate desired point of service.

Type Metering: Self-contained CT CT/VT Trans-socket (37"x37"x14")

Pre-wired Pad (*EPB written approval only) *See EPB Metering Guidelines

Other meters (existing or planned) at this location? NO YES (If yes, attach sketch of proposed metering installation.)

Metering equipment (includes meter socket, CT's, VT's) location on customer owned structure:

Exterior building wall Pedestal Other _____

Signed _____ For _____

Comments _____

Any exceptions to EPB's standard metering practices shall be by written approval. For a copy of EPB's metering requirements please call EPB @ 648-1BIZ or email EPB @ buildershotline@epb.net.

EPB USE ONLY BELOW THIS LINE

Based on the above information, the proposed transformer size is _____ kVA at _____ volts _____ phase.

The available fault current is estimated to be _____ amperes symmetrical at the transformer terminals.

The above calculated symmetrical fault current does not include any motor contribution. Future transformer changes or service size changes will invalidate the above fault current values. Utility design work to serve the above described facility will not be started until EPB has been officially notified of the firm loads to be served.

Signed _____ Title _____ Date _____