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PROJECT NO. 54233

TECHNICAL REQUIREMENTS AND INTERCONNECTION PROCESSES FOR DISTRIBUTED ENERGY RESOURCES (DERS)	§ § § §	PUBLIC UTILITY COMMISSION OF TEXAS

COMMENTS OF CONNECTDER ON GUIDANCE RELATED TO THE USE OF METER SOCKET ADAPTERS TO SUPPORT DER DEPLOYMENT

ConnectDER appreciates the opportunity to provide written comments on Project No. 54233 on guidelines for the approval and use of meter socket adapters, a key tool for the deployment of residential distributed energy resources. ConnectDER is an original equipment manufacturer of meter socket adapters (MSAs), also called meter collars or meter collar adapters, that enable streamlined interconnection of distributed energy resources (DERs), including residential rooftop solar and Level 2 electric vehicle supply equipment (EVSE).

Our comments offer background on MSAs and request that the Commission consider including a process for MSA approval in interconnection rule updates in order to streamline and lower the cost of interconnecting residential DERs.

1. Background on Meter Socket Adapters

MSAs are electronic devices installed between a residential electric meter and the customer-owned meter socket[1], facilitating the interconnection of solar (as well as other DERs like electric vehicles) in minutes. MSAs are manufactured by a number of OEMs and can be used to support a range of end-uses, including distributed energy connections, surge protection, communication, and other functions. A typical MSA installation is shown in the figure below.

[1] See §25.213. Metering for Distributed Renewable Generation and Certain Qualifying Facilities. Subchapter I, Division 2(c)(7)(a).

Figure 1. Meter Socket Adapter Installation

SOLAR PV INTERCONNECTION WIRING EXAMPLE – LOAD SIDE MSA

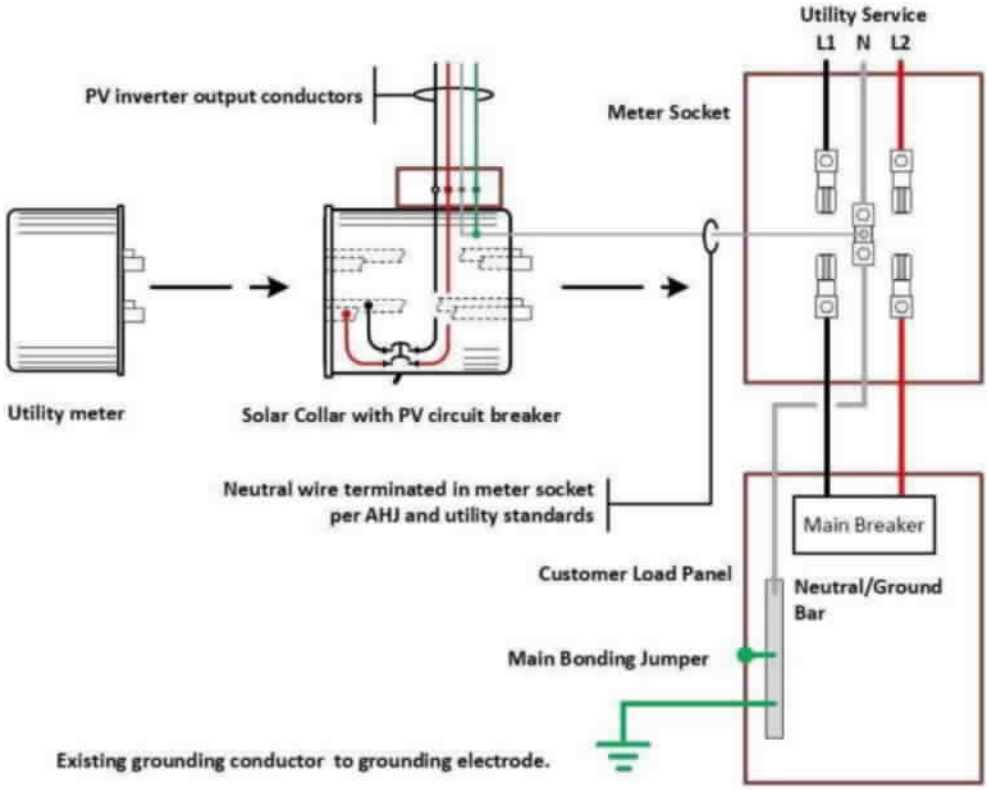

Figure 2. ConnectDER MSA Line Diagram

Meter socket adapters are a superior alternative to service panel upgrades, and can save Texans interested in deploying rooftop solar or other DERs thousands of dollars in installation costs, enabling the use of DERs for customers who might not otherwise be able to afford them. Existing service panels represent a major barrier to residential solar installation and other residential DER deployment (e.g. batteries, Level 2 EV chargers) today. About half of existing residential service panels cannot accommodate DERs like rooftop solar.[2] Installing a new service panel can cost $2500 to $5000 per premises. MSAs offer an alternative to service panel upgrades, enabling program participants to bypass a cost they would have otherwise incurred. Importantly, MSAs also streamline and standardize work for solar installers by eliminating the need for complex and site-specific wiring solutions.

2. Relevance to Project No. 54233

In November 2022, Commission Staff issued a proposal for revised interconnection guidelines, repealing and replacing existing 16 TAC §25.211, relating to Interconnection of On-Site Distributed Generation (DG) and §25.212, relating to Technical Requirements for Interconnection and Parallel Operation of On-Site Distributed Generation. ConnectDER is strongly aligned with the proposal's goal of developing nondiscriminatory policies for interconnection of distribution resources to a distribution system. Meter socket adapters are frequently used in many jurisdictions to support the efficient interconnection of residential-scale DERs, including rooftop solar, battery storage, and electric vehicle charging. Limited statewide guidance on use of this technology has prevented its deployment in much of Texas to date.

The Discussion Draft submitted by staff does not currently include language related to the use of MSAs. However, Project No. 54233 offers an appropriate venue for stakeholders to

[2] EPRI 2023, "*Residential Electrical Panels: How Many Need to be Upgraded*," ACEEE Hot Air/Hot Water Forum. EPRI finds that 44% of households have two or less open breaker slots.

collaborate to develop a single process that TDUs and OEMs can follow to enable approval of qualified devices.

3. MSA Use in Texas

Meter collars (another term for meter socket adapter) have been codified on a state-wide basis in Texas for use facilitating prepaid electricity programs, indicating that there is precedent for broad approval and use of the technology.[3] However, TDU tariffs do not currently make clear and consistent reference to a broader set of MSAs used for DER deployment, acting as a major damper on the ability of third-party solar installers to deploy this proven technology as a tool for lowering project costs. For example, although meter sockets are customer-owned, current AEP metering guidelines forbid the connection of any customer-owned apparatus or device to the meter socket without AEP authorization.[4] However, AEP does have a published guide for the installation of meter collars by third parties, setting out requirements for installation by licensed electricians,[5] as well as a list of approved meter collars.[6]

Austin Energy recently approved ConnectDER's MSA for use in their jurisdiction. Statewide guidelines for MSA approval could draw on the testing and process undertaken by Austin Energy, streamlining the application, approval, and deployment process going forward.

4. MSA Guidance in Other Jurisdictions

Utilities across the country have recognized the benefits of MSAs, including lowered installation costs, significantly faster interconnection processes, and streamlined project delivery, and adjusted guidelines - frequently in the form of interconnection guidelines - accordingly. For example, In Arizona, both Tucson Electric Power[7] and Arizona Public Service[8]

[3] §25.498. Prepaid Service.
[4] AEP Guide for Electric Service and Meter Installations Section 8.05
[5] AEP Installation Guide for Meter Collars
[6] AEP Texas List of Approved Devices
[7] See Sec. 9.2.1 https://docs.tep.com/wp-content/uploads/TEP-Interconnection-Manual-for-Distributed-Generation.pdf
[8] See Sec 8(1)(H)
https://www.aps.com/-/media/APS/APSCOM-PDFs/Residential/Service-Plans/Understanding-Solar/InterconnectReq.ashx

include MSA eligibility in their interconnection guidance. Maryland stakeholders jointly developed a set of recommendations related to MSAs as part of the PC44 working group process, and the Maryland Public Service Commission approved these recommendations for inclusion in interconnection guidelines in January 2024.[9] New Jersey recently passed legislation that requires utilities to authorize the installation of meter socket adapters that meet certain standards.[10]

In other states, utilities have engaged readily in advance of the issuance of statewide guidelines. For example, In Vermont, Green Mountain Power has allowed installation of approved MSAs by qualified third-parties since 2015. Xcel Colorado includes guidelines for use of company-approved meter socket adapters, leveraged in coordination with their residential renewable energy and solar program, in their electric installation and use guidance.[11] Numerous other utilities have voluntarily allowed for the installation of MSAs, including PPL in Pennsylvania, Pacific Power in Oregon, Rocky Mountain Power in Utah, and Hawaiian Electric Company in Hawaii, and more than a dozen others.

5. Request to Clarify Process for MSA Approval and Necessary Interconnection Guideline Updates

While Austin Energy has approved MSAs for use across their service territory, other TDUs in Texas have generally not clarified a process by which devices can efficiently be approved, nor have they aligned on a set of requirements MSAs should meet. ConnectDER requests that stakeholders work within Project No. 54233 to develop guidelines for utility approval of MSAs, which would enable use of a proven, affordable technology manufactured by a range of OEMs.

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[9] https://webpsc.psc.state.md.us/DMS/rm/RM81
[10] S3092: https://legiscan.com/NJ/text/S3092/2022
[11] See Sec. 2.8 https://www.xcelenergy.com/staticfiles/xe-responsive/Admin/Managed%20Documents%20%26%20PDFs/Xcel-Energy-Standard-For-Electric-Installation-and-Use.pdf

The Staff Discussion Draft does not currently address MSAs, but given the purpose of the docket is to create nondiscriminatory and streamlined processes for interconnecting DERs to the grid, it is reasonable to include an additional section clarifying customer ability to use qualified MSAs. Specifically, we suggest the addition of the following language to §25.212, designed to enable to market participation of MSAs manufactured by a range of technology providers:

"Interconnection equipment such as a customer-owned meter collar for the purpose of interconnecting power production, electric end-uses like EV charging, or whole home electric isolation and (intentional or unintentional) islanding of a Generating Facility shall be allowed where that device does not impede access to the sealed meter socket compartment or pull section of the Sealed Electric Section (SES). The meter collar shall be UL 414 Certified and rated adequately for the connected equipment."[12]

We further suggest that utilities develop processes for evaluation and approval of customer-owned MSAs, for review and approval by the Commission. Across the country, utilities have implemented slightly different requirements, but generally adhere to the following principles, which we recommend for consideration in Texas state-wide guidelines for utility approval:

- MSAs should be qualified for eligibility by a utility within a maximum time period (e.g. 60 days)
- The MSA shall be customer owned, with installation completed by a qualified third party
- The MSA must meet minimum safety requirements as defined in UL 414 and other relevant standards
- The MSA must be an approved product model, with the list of models updated at least annually

[12] Language adapted from Tucson Electric Power Interconnection Manual
For Distributed Generation Projects:
https://docs.tep.com/wp-content/uploads/TEP-Interconnection-Manual-for-Distributed-Generation.pdf

- The MSA must be UL listed and suitable for use in meter sockets that are rates up to 200 amperes
- The MSA must not prevent access to the sealed meter socket compartment

ConnectDER appreciates the opportunity to comment and looks forward to working collaboratively with stakeholders to develop statewide guidelines for MSA approval and deployment, in support of improved interconnection practices in Texas.

Respectfully,

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