

**BEFORE THE
PUBLIC SERVICE COMMISSION
OF THE DISTRICT OF COLUMBIA**

IN THE MATTER OF 15 DCMR CHAPTER : RM40-_____
40 – SMALL GENERATOR :
INTERCONNECTION RULES : August 18, 2025

**PETITION TO AMEND THE SMALL GENERATOR INTERCONNECTION RULES IN
CHAPTER 40 OF THE COMMISSION’S REGULATIONS**

Pursuant to D.C. Code Sections 2-505(b) and (c), and Sections 101.1 and 104.1 of the Public Service Commission of the District of Columbia’s (Commission) Rules of Practice and Procedure, ConnectDER, Tesla, and Enphase respectfully request that the Commission initiate a rulemaking to amend 15 DCMR Chapter 40 to implement a standardized process for reviewing and approving customer-owned meter socket adapters (MSAs, also referred to as “meter collars”) for the purpose of facilitating the deployment of distributed energy resources (DERs) and electrification retrofits. There are currently no regulations within the District of Columbia Municipal Regulations (D.C.M.R.) regarding Meter Socket Adapters, and the Potomac Electric Power Company (Pepco) does not currently evaluate meter socket adapters within its interconnection application review process. Without such regulations in place, District homeowners cannot access this cost-effective technology that can save thousands of dollars in electrical work when adding residential solar, battery energy storage systems (BESS), and new loads such as electric vehicle (EV) charging. The proposed rule is reflective of regulations adopted in Maryland’s COMAR 20.50.09.07, which were established and adopted through a stakeholder review process involving MSA manufacturers and utilities including Pepco.

Background on Meter Socket Adapters

A meter socket adapter is an enclosed hardware interface designed for installation between a customer-owned meter socket and the electric distribution company's (EDC's) meter. Utilities across the country have installed MSAs for decades to support a variety of utility facing applications, such as meter form conversion or surge protection. In recent years several original equipment manufacturers (OEMs) have developed MSAs to support deployment of DERs, including serving as an enabling technology for residential solar, battery storage, and electric vehicle chargers.¹ This new generation of products is owned, installed, and operated by a customer,² in the same way that a customer owns their meter socket. MSAs are not part of the utility infrastructure, do not affect the ability of utilities to meter electricity, and are not used for billing purposes.

ConnectDER, Tesla, and Enphase (henceforth referred to as "MSA manufacturers"), find that utilizing an MSA can save customers hundreds to thousands of dollars compared to traditional installation methods. For residents who choose to install rooftop solar, battery storage, EV chargers, or other DERs, existing service panels represent a major barrier to installation. About half of existing residential service panels cannot accommodate interconnecting DERs.³ Having access to MSAs can make DERs affordable to a wider range of District customers, especially low-to-moderate income residents. This encourages more adoption of renewable energy, clean technologies, and beneficial electrification as emphasized in the Carbon Free DC plan,⁴ and can help grow participation in DC's upcoming virtual power plant projects.⁵ MSAs serve several use cases for beneficial DER additions and electrification retrofits, including:

¹ For more information on the characteristics and specifications of meter socket adapters, see National Electrical Manufacturers Association US 80016-2022 Meter Socket Adapters. https://www.nema.org/docs/default-source/technical-document-library/nema-us-80016-2022-aspublished.pdf?sfvrsn=a4caa6df_3#:~:text=A%20meter%20socket%20adapter%20is,grown%20steadily%20over%20the%20years.

² References to customer ownership, installation, and operation in this document should be understood to mean qualified personnel acting on behalf of the customer - i.e., a licensed electrical contractor performing the installation - as opposed to reliance on utility personnel.

³ EPRI US Residential Electric Panel Survey: <https://www.epri.com/research/programs/109396/results/3002026736>

⁴ "Carbon Free DC, 2045 Strategy" 2024.

https://doee.dc.gov/sites/default/files/dc/sites/doee/service_content/attachments/CFDC_StrategicSummary_11.30.23.pdf

⁵ DC PSC, "Virtual Power Plant Pilot Project." <https://dcpsc.org/Clean-Energy/Innovations/PowerPath-DC/Virtual-Power-Plant.aspx>

- **Solar MSAs:** An MSA manufactured by ConnectDER creates a straightforward interconnection point for rooftop solar PV systems, which can save between \$2k-\$3k when avoiding a main panel replacement and unnecessary electrical and refinishing work.⁶
- **Islanding MSAs:** Islanding MSAs allow homes with battery energy storage systems (BESS), either standalone or paired with solar PV, to automatically disconnect from the grid during outages, ensuring backup power without backfeeding. Many MSA manufacturers have developed products to achieve this use case, including Tesla's Backup Switch MSA, the Enphase IQ Meter Collar, and the ConnectDER IslandDER MSA. Islanding MSAs can save thousands of dollars and several hours of labor compared to traditional methods for backup power islanding, as installers avoid the need to complete complex rewiring tasks to enable whole- or partial-home backup configurations.
- **Load management MSAs:** ConnectDER's EV MSA supports connecting EV chargers or heat pumps by integrating load-sensing features that prevent system overloading. Using an MSA for these purposes can avoid the need for main panel and/or service upsizing, which can cost anywhere from \$4k-\$10k, a cost which is typically paid entirely by the homeowner.⁷ The savings from avoiding service upsizing are substantial for homeowners, but they also benefit ratepayers and utilities by reducing the need for costly transformer upgrades or other distribution system enhancements that typically result from service upgrades.

Meter Socket Adapters in the District and Neighboring Jurisdictions

Meter socket adapters are already in use across utility territories nationwide and neighboring states in the Mid-Atlantic. Many states have implemented rules to establish minimum safety requirements, timelines, and roles and responsibilities around MSA approval. Most notably, the MSA manufacturers engaged with Pepco in developing Maryland's MSA rules

⁶ See www.connectder.com for additional product details.

⁷ NV5 and Redwood Energy, "Service Upgrades for Electrification Retrofits Study Final Report." May 27, 2022. <https://www.redwoodenergy.net/research/service-upgrades-for-electrification-retrofits-study-final-report-2>

during the RM81 stakeholder process.⁸ These MSA rules were added to the Maryland Code of Regulations and made effective on December 12th, 2024.⁹ The MSA manufacturers have submitted devices to Pepco Holdings (PHI) for review and are expecting approval to be posted publicly within the next month. With this upcoming approval, customers of Pepco’s Maryland service territory join over 35 million residential customers across the country who can utilize MSAs.

Pepco has expressed that it has no concerns about MSA applicability, safety, or effectiveness. Several parties posed questions in the FC1050 docket regarding MSA adoption, including questions from ConnectDER, the Department of Energy and Environment (DOEE), the Chesapeake Solar & Storage Association (“CHESSA”), and Sunnova. A straw proposal from those joint parties dated March 28, 2025 gave the recommendation that “The Commission should direct Pepco to allow customers in DC to utilize MSAs, or else require Pepco to articulate a much clearer justification for why a separate and redundant stakeholder process in DC is needed to review the same technical questions that have already been thoroughly vetted in states like Maryland.¹⁰” In the most recent set of Supplemental Technical Compendium questions, DOEE posed six questions to Pepco asking for details around MSA processes and whether Pepco had specific concerns regarding MSA use. Pepco did not share any concerns, but rather gave an identical response to each of the questions:

“There are currently no regulations in D.C. that require Pepco to evaluate the use of MSAs, therefore Pepco does not evaluate MSA’s in DC. If regulations like the ones in Maryland were adopted in DC regarding MSAs, Pepco would comply with those regulations.”¹¹

⁸ Maryland PSC Admin Docket RM81, “Small Generator Facility Interconnection Revisions to COMAR 20.50”, <https://webpscxb.psc.state.md.us/DMS/administrative-docket>

⁹ MD. Code Regs. 20.50.09.07 - Certified and Approved Equipment.
<https://www.law.cornell.edu/regulations/maryland/COMAR-20-50-09-07>

¹⁰ Joint Straw Proposal of DOEE, CHESSA, Sunnova, ConnectDER, Microgrid Architect. (2025, March 28). Available in the shared Box folder for the ongoing FC1050 proceeding.

¹¹ Pepco’s Responses to DOEE & IREC’s Supplemental Tech Compendium Questions – To be discussed @ May 6, 2025, Technical Conference. (2025, May 6). Available in the shared Box folder for the ongoing FC1050 proceeding.

Guidance from the Commission can be especially beneficial in this instance where the EDC has adopted processes in neighboring jurisdictions but does not have clear guidelines on how to proceed in the District. PHI has not expressed any concerns about the applicability, safety, or effectiveness of MSAs in its DC service territory. We believe that the rule addition proposed below will be beneficial for all parties involved by bringing clarity to the processes, roles, responsibilities, and minimum safety requirements around MSA approval and adoption.

Rationale to include MSA approval processes in 15 DCMR Chapter 40

The MSA manufacturers find that 15 DCMR Chapter 40 is an appropriate section to establish rules for utility review of meter socket adapters. While customer-owned MSAs may perform many different functions, their joining purpose is to facilitate easier installation of a DER system. This includes small scale solar and BESS, which are guided by the rules set forth in Chapter 40. We specifically recommend that MSA rules should be included in section 4002, “Applicable Standards”, as this is where interconnection equipment is discussed. This section was most recently amended in 2021 to add specific requirements for advanced inverters.¹² MSAs, as an equipment component of an interconnecting system, are a logical addition to this section. The suggested rules, which are reflective of those adopted in Maryland, were made an amendment to the Maryland Code section 20.50.09.07, “Certified and Approved Equipment”, which now addresses the applicable standards for inverters, meter socket adapters, and interface components.¹³

The establishment of an MSA review process should establish minimum safety standards and a review process for a broad range of customer-owned MSAs. Though we recommend 15 DCMR Chapter 40 as the proper location for the proposed rule, it should not necessarily restrict customer-owned MSAs to only be used on interconnecting facilities. MSA use cases include, but are not limited to, interconnection for solar installations, isolation of battery energy storage systems, and load management for electric vehicle chargers and other new loads. The recommended language does not state which specific models of MSA shall be approved, but

¹² 15 DCMR Chapter 40, 15-4002 - Applicable Standards. Effective Date 20 August 2021.

<https://www.dcregs.dc.gov/Common/DCMR/RuleDetail.aspx?RuleId=R0049237>

¹³ MD. Code Regs. 20.50.09.07 - Certified and Approved Equipment.

<https://www.law.cornell.edu/regulations/maryland/COMAR-20-50-09-07>

rather, establishes minimum safety standards and a process for the EDCs to review and approve models submitted by MSA manufacturers. Consistent with the application of MSA regulations in neighboring states, we believe that the MSA process should apply to any customer-owned MSA that meets minimum safety standards.

Recommended Amendment Language

The MSA manufacturers suggest the adoption of a process that would create benefits for both MSA manufacturers and utilities. The policy would establish:

1. **Clear timelines:** The recommended policy below would set a 90-day timeline for utilities to test and approve new MSAs after the manufacturer submits a request for approval. This enables market certainty for the OEMs, installers, and residential customers who benefit from MSA technologies. It also gives utilities a reasonable timeline to assess MSA models. Establishing a clear timeline for MSA approval has proven effective and feasible in other states and allows other parties to adequately plan for new product availability. While we recommend 90-day timelines for review and standards updates for consistency between state statutes, this should not preclude Pepco from expediting approval of devices that have already been reviewed and approved by PHI in neighboring jurisdictions.
2. **Defined roles and responsibilities for MSA manufacturers and utilities:** The recommended policy establishes that MSA manufacturers must first meet minimum safety standards, that the utilities serve as the party to test and give approval or disapproval for MSA products, and that the utilities maintain a public list of all approved MSA models. Having a clear pathway from product introduction to market entry enables efficient use of resources and time.
3. **Clear and consistent minimum safety standards to be considered for approval:** Before submitting requests to qualify new MSA models with the utilities, MSA manufacturers must first ensure the devices meet certain national standards and pass all applicable tests through a Nationally Recognized Testing Laboratory (NRTL). These laboratories conduct rigorous safety and reliability testing to certify MSAs to the same

standards to which common utility equipment often must be certified, and via the same testing and certification process, meaning that any product introduced in the state will provide the same basic expectations around safe operations.

The MSA manufacturers propose the following language to be added as a subsection to 15 DCMR Chapter 40, section 4002.8, “Meter Collar Adapters”. This proposed language is reflective of the regulations adopted in Maryland through a stakeholder-driven process that included ConnectDER, Tesla, Pepco, and other utilities.

4002.8: Meter Collar Adapters

With respect to meter collar adapters, the following provisions apply:

(a) An electric distribution company (EDC) shall approve a meter collar adapter model for installation in its Washington, D.C. service area for specific compatible meter configurations and customer applications provided that the meter collar adapter model meets the following criteria:

(1) The meter collar adapter model is approved or listed by a nationally recognized testing laboratory;

(2) The meter collar adapter model is approved for use in EDC service areas, unless sufficient rationale for disapproval is provided by an EDC;

(3) All meter collar model installations, access, testing, inspections, servicing and removals shall only be performed by a qualified person as agreed between the EDC and the meter collar manufacturer;

(4) The meter collar adapter model design does not impede access to the sealed meter socket compartment, or to the meter itself by a qualified person;

(5) The meter collar adapter model is compatible with the National Electric Code;

(6) The meter collar adapter model is compatible to the specific meter configurations and customer applications to ensure that the meter collar adapter is capable of being safely and reliably inserted into a meter socket to maintain a secure connection with both the meter socket and the utility meter.

(b) An EDC shall approve or disapprove a meter collar adapter model for installation in its service area no later than 90 days after a meter collar manufacturer submits a request for approval of the meter collar adapter and an EDC's procedures shall be updated within 90 days of approval.

(1). An EDC shall provide an explanation to the requesting meter collar manufacturer explaining the reasons any meter collar adapter model application was denied.

(2). An EDC shall provide public notice of all decisions approving a meter collar adapter model by posting the information on the utility's website.

(c) An EDC shall authorize the installation and operation of an EDC approved meter collar adapter for a customer installation provided the meter collar adapter meets the following criteria:

(1) The meter collar adapter is qualified to be connected to the supply side of the service disconnect pursuant to the applicable provisions of the National Electric Code;

(2) The meter collar adapter is rated for the meter socket into which it is intended to be installed;

(3) The meter collar adapters does not exceed the weight bearing limits of a meter socket;

(4) Multiple meter collar adapters are not stacked in a meter socket;

(5) The meter collar adapter does not disable the excessive heating detection capability of AMI meters.

(d) An EDC shall uninstall an approved meter collar adapter in the aggregate if any deficiencies are found after installation that result in safety or operational concerns, if these concerns cannot be remediated by a customer for a specific installation or by a meter collar adapter manufacturer, in the aggregate.

We also propose the following definition to be added to section 4099.1, "Definitions"

"Meter collar adapter", also referred to as a meter socket adapter or MSA, means an electrical device that is installed between a residential electric meter and the meter socket, for the purpose of facilitating the deployment of customer-owned or customer-leased technology. Meter socket adapter use cases include, but are not limited to, interconnection for solar installations, isolation of battery energy storage systems, and load management for electric vehicle chargers and other new loads.

Conclusion

The MSA manufacturers hereby submit this proposed amendment to the 15 DCMR Chapter 40 Small Generator Interconnection Rules to establish a standardized process for utility MSA review. Enabling customers to access these beneficial technologies that have been approved by neighboring regions, help make DERs and electrification more affordable for residential customers, and support DC's decarbonization efforts.

Respectfully submitted,

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