

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

**Petition of ConnectDER and Tesla to
Establish a Statewide Process for Meter
Socket Adapter Model Approval**

Case No. 24-E-_____

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Adapter Model Approval**

Submitted by

ConnectDER and Tesla

Dated: 8/30/2024

I. Introduction

ConnectDER and Tesla hereby submit this petition to the New York State Public Service Commission (the “Commission”) requesting that the Commission commence a proceeding and, following public notice and comment, issue an order establishing a statewide process for meter socket adapter (MSA) models to be approved for use for the purpose of facilitating the deployment of customer-owned or customer-leased distributed energy technologies.

II. Background on Meter Socket Adapters and Relevance to New York Policy

A meter socket adapter is an enclosed construction with blades and jaws intended for installation between a meter socket and the utility meter. Utilities across the country have owned and installed meter socket adapters 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 distributed energy resource (DER) deployment, including serving as an enabling technology for residential solar, battery storage, and electric vehicle charger projects.¹ This new generation of products is owned, installed, and operated by a customer,² in the same way that a customer owns, installs, and operates their meter socket. They are not part of the utility infrastructure, do not affect the ability of utilities to meter electricity, and are not used for billing purposes.

MSAs are a critical enabling technology as New York advances efforts to achieve its goals under the Climate Leadership and Community Protection Act (CLCPA), lowering costs for project deployment by enabling residential customers to bypass main panel upgrades in favor of a lower-cost, easy-to-install technology. The CLCPA requires New York to reduce economy-wide greenhouse gas emissions 40 percent by 2030 and no less than 85 percent by 2050 from 1990 levels. To get there, the state will need to deploy a broad and significant portfolio of distributed energy resources, including 10,000 MW of distributed solar and 6000 MW of energy storage by 2030 and a transition to 100% light duty zero-emission vehicle sales

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.

by 2035. These goals are ambitious, and require carefully designing programs and leveraging technologies that can maximize participation while keeping costs low for ratepayers. A recent progress report on the state's Clean Energy Standard (CES) suggests that the state needs to unlock significant additional resources to achieve its goal of 70% renewable energy generation by 2030, and that a gap of 42,125 GWh had not yet been addressed by program commitments.³

MSAs are a critical technology for closing this gap. Existing service panels represent a major barrier to residential solar installation today. About half of existing residential service panels cannot accommodate DERs like rooftop solar.⁴ Installing a new service panel can cost \$2500 to \$5000 per premises.⁵ MSAs can offer an alternative to service panel upgrades, enabling program participants to bypass a cost they would have otherwise incurred. Importantly, MSAs can also streamline and standardize work for solar and battery energy storage system installers and authorities having jurisdiction (AHJs, or, electrical inspectors) by eliminating the need for complex and site-specific wiring solutions. Simplifying installs saves on the costs of both materials and labor needed to install residential clean energy systems, providing savings for customers. Additionally, MSAs can allow for faster installation of clean energy systems, allowing for more systems to be deployed in a shorter time frame.

These technology benefits also make rooftop solar a more viable option for a larger set of customers, including those with lower incomes. Across its planning for DER deployment, the Commission has prioritized targets and program designs that ensure significant benefits flow to disadvantaged communities in line with CLCPA targets. For example, the Commission recommended at least \$133 million of EV make-ready program funds be directed toward disadvantaged communities. At least 35% of clean energy fund expenditures, meanwhile, must be used to serve disadvantaged communities. Ensuring that residential DERs are available to these customers by unlocking enabling technologies like MSAs should be a priority for the Commission.

III. Background on Meter Socket Adapter Use in New York

³ *CES Biennial Review Report*.

<https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-e-0302&CaseSearch=Search>

⁴ *EPRI US Residential Electric Panel Survey*: <https://www.epri.com/research/programs/109396/results/3002026736>

⁵ *Service Upgrades for Electrification Retrofits Study Final Report*:

<https://www.redwoodenergy.net/research/service-upgrades-for-electrification-retrofits-study-final-report-2>

MSAs have been utilized to support DER deployment in New York since 2017, and have been deployed to thousands of households in the state. However, they have not yet been unlocked for general use to support DER program deployment across the state. The use of MSAs began with a Con Edison-NYSERDA pilot to enable solar interconnection and real-time generation data collection. As part of this pilot, Con Edison purchased, owned, and installed ConnectDER MSAs. Solar customers and Con Edison project managers reported significant time and cost savings for installations using ConnectDER MSAs.⁶ The model of ConnectDER MSA that was used for this program has been on the DPS list of approved meter equipment since 2020.⁷ This pilot program has come to its scheduled close, and a more durable process for MSA deployment is required to ensure the use of this cost-saving DER enabling device going forward.

In 2021, ConnectDER and Tesla began engaging the Joint Utilities on potential paths forward for more permanent and wide scale MSA approval. Both ConnectDER and Tesla made presentations to the Joint Utilities and suggested that utilities voluntarily test and approve MSA devices. Since then, some utilities completed testing on undefined and lengthy timelines, while most utilities refused the option to test devices at all. A consistent process and predictable timeline for MSA approval has yet to emerge, creating a significant barrier to market uptake and limiting the extent to which these devices can be used to support New York's CLCPA DER deployment goals.

Some devices have been approved in certain utility territories. The Tesla Backup Switch MSA has been approved for use since November 2023 (see matter [23-00507/23-E-0137](#)) when they were added to the DPS approved meter equipment list.⁸ The Backup Switch enables a streamlined connection to a home backup battery with an automatic grid-disconnect switch. However, despite Backup Switch being added to DPS's approved meter equipment list, no New York utility has allowed for its installation in the main meter socket, where MSAs are intended to be installed.

Con Edison applied for approval to use ConnectDER Solar MSA V5.2 via a "similarity petition" to DPS on February 14, 2024, requesting the approval of ConnectDER V5.2 given the

⁶ Consolidated Edison Distributed System Implementation Plan:

<https://www.coned.com/-/media/files/coned/documents/our-energy-future/our-energy-projects/distributed-system-implementation-plan.pdf>

⁷ New York State Department of Public Service Approved Meter List:

<https://documents.dps.ny.gov/search/Home/ViewDoc/Find?id=%7B50FF468D-0000-C513-953C-0A59E8775419%7D&ext=pdf>

⁸ *Ibid.*

similarity to the model of ConnectDER which was approved in 2020. On April 5, 2024, DPS accepted the similarity approval (see matter [19-02150/19-E-0597](#)). As a result, Orange and Rockland (O&R) has begun allowing the ConnectDER Solar MSA for customer installation in the main meter socket within their service territory, and Con Edison is considering approval for use under the same criteria. The O&R approval aligns with New Jersey legislation S3092/A4793, which required investor owned utilities (IOUs) to establish an approval process for MSAs, an example of how a statewide requirement can best facilitate efficient and streamlined utility testing and acceptance. As a result of this legislation, O&R has extended approval for the ConnectDER device to be utilized in both their New Jersey and New York service areas. The O&R approval for use in New York was granted on May 15, 2024.

These limited approvals are an exception rather than a rule. The process for MSA approval in New York remains fragmented, slow, and deleterious to CLCPA goals. According to data from a study by EPRI, over 1.1M households in the state of New York could need a main panel replacement or more extensive electrical work in order to add any of these home electrification improvements.⁹ Meter socket adapters serve as a simple, cost-effective solution to make electrification possible for more households.

New York can follow a path that has been well-established in other jurisdictions, with the Commission establishing expectations for timeline and process for approval of qualified MSA devices. To date, MSAs have been approved in over 20 states, including New Jersey, Illinois, Colorado, Arizona, and California. These states have set basic product safety requirements for MSAs and a standard process for introducing new MSAs to the market.

IV. Purpose of Petition

The manufacturers of Meter Socket Adapters recognize that there is not a standardized process for utilities to test and approve new MSA types and models in New York. This lack of standardization creates many inefficiencies and barriers to adoption by utilities statewide.

The current process for MSA approvals in New York is similar to the approval process for consumption metering devices. In this process, an individual utility would voluntarily opt-in to testing MSA devices. After a testing process, the utility would request or sponsor approval

⁹ EPRI US Residential Electric Panel Survey, condensed version for public use:
<https://drive.google.com/file/d/1IdJnLtShgFKq5oBCvx27Vi-TVgp0TkrP/view?usp=sharing>

from the PSC to use MSAs for specifically outlined purposes. While this has served as a short-term solution that has enabled the approval of some MSA devices, the process is not a long-term fit for MSA approval for several reasons. MSAs are *not* a standalone metering device but rather are used in conjunction with a utility meter. Therefore, they do not require the same types of testing or regulation as revenue metering devices. The current process creates more administrative barriers and gatekeepers than necessary, with back-and-forth between the MSA manufacturer, the utility, and regulators. This process also restricts approval to utility-led programs or utility-sponsored devices, which is not conducive to the adoption of customer-owned MSAs. Ultimately, the current process puts utilities in a gatekeeping role, giving them ultimate decision-making regarding which utility-owned MSAs and customer-owned MSAs can be installed in their respective territories, thereby unnecessarily restricting competition and limiting the potential benefits that the technology has to offer. A new process is needed to better serve customers wishing to access affordable interconnection and electrification through MSAs.

ConnectDER and Tesla 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 60-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.
- 2. Defined roles and responsibilities for MSA manufacturers, DPS, and utilities:** The recommended policy establishes that MSA manufacturers must first meet minimum safety standards, the utilities serve as the first party to test and give approval and disapproval, and DPS will mediate disputes between manufacturers and utilities. Having a clear pathway from product introduction to market entry enables efficient use of resources and time. In the recommended policy, neither the Commission nor DPS Staff

would have a role in the MSA approval process unless an OEM appeals a utility's disapproval or decision regarding a specific MSA model. We believe these responsibilities are aligned with the proper parties because they follow the existing process for approving new meter socket equipment (distinct from the current process for meter socket *adapters*).

3. Clear and consistent minimum safety standards to be considered for approval:

Before introducing new MSA models to the utilities, the devices must first meet certain national standards and pass all applicable tests through a Nationally Recognized Testing Laboratory (NRTL).¹⁰ These laboratories conduct rigorous safety and reliability testing in order to certify MSAs to the same standards to which utility equipment often must be certified, meaning that any product introduced in New York will follow the same basic set of standards.

IV. Proposal for MSA Approval Process

The PSC has previously approved MSA devices based on 16 NYCRR §93. This regulation is specific to meters. The term meter includes all meters and associated devices used for the determination of the units of electric service furnished to consumers. Although MSAs are not used to determine the units of electric service furnished to customers, this section has been extended to cover MSAs historically. Going forward, we believe that either adjustments to §93 or the establishment of a standalone policy could be appropriate, though we think a standalone policy, which refers to §93 as a justification for MSA testing to confirm that an accurately calibrated meter doesn't fall outside of ANSI ranges for a given accuracy class, is preferable to adjustments to §93. We further emphasize that these policy changes should be paired with the grandfathering-in of equipment that has been approved under the current process. Regardless of whether such a policy lives inside or outside of §93, such a policy would be consistent with the Commission's mandate to implement the goals of the CLCPA. The recommended policy detailed below is utilized in several states and creates a defined process for MSA approvals that

¹⁰ *The UL standard for Meter Sockets, UL 414, contains two supplements - Supplement SA that covers meter socket adapters and Supplement SB, that covers meter socket adapters with provisions for connection of distributed generation equipment, that may contain overcurrent protection. Presently, these two supplements are the foundation of any MSA certification, with other standards layered in depending on the end use application. Requirements for compliance with additional standards is at the discretion of the NRTL during the evaluation process.*

incorporates minimum safety standards, timelines which utilities must follow, and identifies the parties that shall be involved in the approval process. Suggested language is as follows:

Authorizes installation and operation of meter socket adapters on residential electric meters, under certain conditions.

a. An electric public utility shall authorize the installation and operation of a meter socket adapter, whether owned by a residential customer or by a third-party, provided the meter socket adapter meets the following criteria:

(1) the meter socket 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 socket adapter is approved or listed by a nationally recognized testing laboratory (NRTL) and is rated appropriately for the meter socket into which it is intended to be installed;

(3) the meter socket adapter is certified to meet all applicable standards, as determined by a nationally recognized testing laboratory;

(4) the meter socket adapter does not impede access to the sealed meter socket compartment or the pull section of the service section of the electric meter or switchboard, as applicable.

b. A manufacturer of a meter socket adapter, a third-party, a residential customer, or an electric public utility shall all be allowed to install, maintain, or service a meter socket adapter or associated equipment. Only qualified personnel shall physically access the meter socket.

c. An electric public utility shall modify its electric service requirements as necessary to implement the provisions of this section immediately after the effective date of this section.

d. Electric public utilities shall establish and publicly publish a point of contact to which device manufacturers will submit formal requests for approval.

e. An electric public utility shall approve or disapprove a meter socket adapter for installation in its service area no later than 60 days after a manufacturer or third-party submits a request for approval of specific models of the meter socket adapter. An electric public utility shall provide public notice of all decisions approving or disapproving a meter socket adapter, including by posting the information on the utility's Internet website. Should an electric public utility disapprove a meter socket adapter, the electric public utility shall provide a clear and detailed explanation to the requesting vendor enumerating the reasons the application was denied. An applicant may appeal to the Department of Public Service the decision of an electric public utility in response to a disapproved request. Further, an applicant may appeal to the Department of Public Service the decision of an electric public utility in response to an approved request for a meter socket adapter if the applicant deems the terms of approval unworkable. If the Department of Public Service is unable to resolve issues related to a disapproved request or an unworkable approval, the applicant may appeal the utility's decision to the Public Service Commission for resolution. Applicable municipal utilities which are regulated by the Public Service Commission shall follow the same timeline. They shall not be required to perform testing on the MSA as part of their approval process; they may rely on an approval from an IOU.

f. As used in this section:

"Meter socket adapter" 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.

Conclusion

We urge the Public Service Commission to direct IOUs to allow MSAs, and to establish a process for MSA approval that includes clear timelines and expectations. We have not identified any regulations in the interconnection rules or otherwise that would prevent the adoption of MSAs, but updates to current processes are clearly needed to enable more widespread and timely use of these devices. Meter socket adapters have been proven safe and effective in many applications and are in use across the country. These technologies enable low-cost interconnection and electrification, especially for homes that would otherwise need expensive electrical upgrades. PSC should direct IOUs to update their electric service requirements to allow MSAs under the basic requirements and timelines outlined above.

We appreciate the opportunity to comment on these matters.

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