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Public Utility Commission of Texas

Memorandum

TO: Chairman Peter M. Lake
Commissioner Will McAdams
Commissioner Lori Cobos
Commissioner Jimmy Glotfelty
Commissioner Kathleen Jackson

FROM: Mariah Benson, Market Analysis Division

DATE: March 31, 2023

RE: Project No. 51603, *Review of Distributed Energy Resources*
April 6, 2023 Open Meeting Item No. 23 – Project No. 54224, *Cost Recovery for Service to Distributed Energy Resources (DERs)*; Item No. 24 - Project No. 54233, *Technical Requirements and Interconnection Processes for Distributed Energy Resources (DERs)*

At the March 23, 2023 open meeting the Commission directed Commission staff (Staff) to file a plan for pending projects related to distributed energy resource (DERs). This memo is in response to that direction. Also, Commissioner McAdams specifically noted transparency issues of DER interconnection costs. Staff proposes addressing these interconnection cost transparency issues in a proposal for publication (PFP) in Project No. 54233. Attachment A to this memo summarizes the plan in a tabular format, and Attachment B is intended as a reference document for how Staff has used certain terminology in the plan.

Staff has identified multiple issues that fall into three major categories: (1) Interconnection Process, (2) Cost Recovery, and (3) Reliability and Other. Not all issues are relevant to all types of DERs, all sizes of DERs, or in all areas of the State. Please see Attachment B for additional details. Generally, “large” DERs are over one megawatt (MW) and must register with the Electric Reliability Council of Texas (ERCOT). Generally, “small” DERs are owned by residential and small commercial customers and can participate in the Commission’s Aggregated DER (ADER) Pilot.

INTERCONNECTION PROCESS

This category includes issues that are related to how and when DERs connect to the grid, and the associated costs. Specific issues in this category include the transparency of costs charged by distribution service providers (DSPs) to “large” DERs as contribution in aid of construction (CIAC), and whether DSPs are required to true up the CIAC. Other specific issues within this

category include updates to existing 16 Texas Administrative Code (TAC) § 25.211. All these issues are being addressed in the rulemaking Project No. 54233.

Interconnection Rulemaking (Project No. 54233): On November 22, 2022, Staff filed a discussion draft in Project No. 54233. The objective of this rulemaking is to update 16 TAC § 25.211 for “small” DERs and establish a similar rule for “large” DERs. These updates will be applicable to all investor-owned utilities (inside and outside of ERCOT) and potentially to municipally-owned utilities and electric cooperatives.

- Pending Legislation: Senate Bill (SB) 1212 and House Bill (HB) 2793 are pending and also contemplate issues this project addresses.
- Next Steps: Staff is planning to host a workshop at the end of April to determine the appropriate cut off between “small” and “large” DERs. At this workshop, Staff will seek feedback from stakeholders about other topics related to the interconnection process that may require additional workshops. Potentially, issues discussed at future workshops could result in new projects being created or alternative timelines for addressing issues in the current project.

COST RECOVERY

Cost recovery for transmission service providers and transmission connected resources has been standardized across ERCOT. However, DSPs have company-specific tariffs that require an interconnecting DER to pay for distribution upgrades necessary to support the DER. A subset of DER providers, distributed energy storage resource (DESR) providers, have asserted that DESRs should be treated the same as resources interconnecting on the transmission system and, therefore, should not have to pay for use of the distribution system. Another issue in this category involves cost shifting happening between residential and small commercial customers who own “small” DERs and those who do not own DERs. DSPs may be incurring higher costs as “small” DERs proliferate, however, all customers, even those who do not own DERs, have to bear these additional costs. Issues contemplated in this category would require rule changes and transmission and distribution utilities’ tariff updates.

“Large” DER/DESR Cost Recovery Rulemaking (Project No. 54224): On March 23, 2023, Staff filed a memo recommending “large” DERs, including DESRs, interconnecting to the distribution system continue to be responsible for paying for DSP’s system upgrades that are necessary to interconnect the DER in excess of the DSP’s standard allowance. Staff also recommended DESRs continue to be required to pay for wholesale transmission service at distribution voltage delivery charges based on load delivered to the DESRs.

- Pending Legislation: N/A
- Next Steps: Revisit this topic after the reliability standard project is completed to more accurately determine the benefits DERs, or only DESRs, provide to determine if the costs they are paying are unreasonable.

Other Projects: In comments filed in response to the discussion draft filed in Project No. 54233, some commenters recommended reviewing interconnection costs for “small” DERs. Also, the ADER Task Force has identified some issues on costs shifting from “small” DER owners to those who do not own “small” DERs.

- Pending Legislation: N/A
- Next Steps: Staff has not started discussing these items but has marked them as issues for review and potential future action.

RELIABILITY AND OTHER

Specific issues in this category include updating the technical standards DERs must follow, determining appropriate treatment for DERs to provide ancillary services, and allowing “small” DERs’ participation in the wholesale energy and ancillary services market. Aside from specific issues already identified in this category, Staff anticipates future projects may be necessary to address issues that may arise in the future (e.g., standards on command and control of DERs, and better visibility into the distribution system). Rulemakings and protocol changes will likely be needed to address these reliability issues.

Technical Standards Rulemaking (Project No. 54233): On November 22, 2022, Staff filed a discussion draft in Project No. 54233. The objective of this rulemaking is to update existing 16 TAC § 25.212 to establish new technical standards (e.g., frequency and voltage ride-through requirements) for DERs and DSPs.

- Pending Legislation: SB 1212 and HB 2793 are pending and contemplate issues this project addresses.
- Next Steps: Staff is planning to host a workshop at the end of April to determine the appropriate cut off between “small” and “large” DERs. At this workshop, Staff will seek feedback from stakeholders about other topics related to the interconnection process that may require additional workshops. Potentially, issues discussed at future workshops could result in other projects being created or alternative timelines for addressing current issues.

ADER Pilot (Project No. 53911): On July 14, 2022, the Commission decided to move forward with the creation of an ADER Pilot to allow aggregated “small” DERs to participate in ERCOT wholesale energy and ancillary service markets. On November 3, 2022, the Commission approved the ADER Pilot, for up to 80 MW (of which, 40 MW can provide non-spinning reserve service) of ADERs. ERCOT has noted it expects that ADERs could be providing energy and ancillary services by the second quarter of 2023. Currently, subscription for the ADER Pilot is 8% for energy and 6% for the non-spin reserve service.

- Pending Legislation: SB 1699, HB 3387, SB 1212, and HB 2793 are pending and address the Commission’s legislative recommendations on certain issues that have arisen in the Pilot.
- Next Steps: The ADER Pilot is scheduled to last at least three years. Staff will bring issues to the Commission for consideration as necessary.

Other Projects: On October 6, 2022, the Commission directed ERCOT to review its policy on “large” DERs being required to have a dedicated feeder to participate in ancillary service markets. On March 29, 2023, ERCOT filed NPRR1171, *Requirements for DGRs and DESRs on Circuits Subject to Load Shedding*, to allow DERs, that are located on circuits that could be shed, to provide certain ancillary services. Staff will continue monitoring the industry and the market and recommend the need for other potential changes to enable DER participation within the reliability goals.

- Pending Legislation: SB 1295 and HB 3390 would allow ERCOT greater insight into information on “small” DERs in the ERCOT region, including the non-competitive areas of ERCOT.
- Next Steps: Pending legislation providing ERCOT the authority to request more granular information on “small” DERs, Staff would include this issue in a proposal for publication in Project No. 54233. Staff will monitor NPRR1171 through the ERCOT stakeholder process.

Attachment A: Summary of Issues

	Issue	Docket	Staff Rec.	Next Steps
INTERCONNECTION PROCESS				
1	Transparency – Itemizing the CIAC	54233	Require DSPs provide interconnecting “large” DERs an itemized invoice of interconnection costs.	Host a workshop in April. Publish a PFP shortly after.
2	Transparency – Truing Up the CIAC	54233	Require DSPs true up the CIAC after all “large” DER interconnection updates are complete.	Host a workshop in April. Publish a PFP shortly after.
3	Interconnection Process	54233	“Small” and “large” DERs should each have a standard interconnection process.	Host a workshop in April. Publish a PFP shortly after.
4	Locational Information on Optimal DER Siting	54233	Do <i>not</i> require DSPs or ERCOT provide the market more information on optimal siting locations.	Host a workshop in April. Publish a PFP shortly after.
COST RECOVERY				
5	DER of DESR Paying for Interconnection	54224	Per <u>Staff’s memo</u> , require interconnecting DERs pay DSP for distribution system upgrades <u>above the standard allowance</u> .	Wait to address until the completion of the Reliability Standard.
6	Delivery Service Charges	54224	Per <u>Staff’s memo</u> , require DESR pay for their use of the distribution system acting as load.	Wait to address until the completion of the Reliability Standard.
7	Interconnection Fee for “Small” DERs	TBD	Still under review.	N/A
8	Tariff Revisions for “Small” DER Owners	TBD	Still under review.	N/A
RELIABILITY AND OTHER				
9	Technical Standards for Reliability	54233	Require “large” and “small” DERs follow specific technical standards to ensure reliability.	Host a workshop in April. Publish a PFP shortly after.
10	Dedicated Feeder	N/A	On October 20, 2022, the Commission determined “large” DERs should be able to provide certain ancillary services without a dedicated feeder.	ERCOT filed NPRR1171 on March 29 th , 2023.
11	ERCOT Info. on “Small” DERs	54233	Require DSPs provide ERCOT information on “small” DERs interconnected in their service territories.	Pending legislation, Staff will include this in Project No. 54233.
12	ADER Pilot	53911	Allow “small” DER to participate in ERCOT markets through an aggregation.	Staff will monitor and address issues as they arise.

Attachment B: Other Considerations

DER Technology Applicability:

The term “DESR” is used to describe issues specific to DESRs. The term “DER” is used to identify issues that apply broadly to all DERs, including DESRs.

“Large” DER versus “Small” DER:

	“Large” DERs	“Small” DERs
Size	<ul style="list-style-type: none">- Typically, larger than 1MW+ ERCOT requires registration of resources that may <i>export</i> more than 1MW- Typically, smaller than 10MW	<ul style="list-style-type: none">- Typically, smaller than 1MW- Typically, installed by residential and small commercial customers- Can be participants in the ADER Pilot
Governing Authority	<ul style="list-style-type: none">- Typically, registered with ERCOT+ Are subject to ERCOT Protocols+ Example registrations include:<ul style="list-style-type: none">• Distributed Generation Resource• DESR• Settlement Only Distributed Generation (SODG)	<ul style="list-style-type: none">- Those located in competitive areas are subject to PUC rules for interconnection and technical standards- Sell back excess energy to their Load Serving Entity
References	<ul style="list-style-type: none">- Often referred to as “In-Front-Of-the-Meter” Resources	<ul style="list-style-type: none">- Often referred to as “Behind-the-Meter” Resources- Referred to by ERCOT as “Unregistered Distributed Generation (UDG)”

Staff Recommended Area of Authority:

Within the State, there are three separate regulatory paradigms that must be considered when promulgating rules related to DERs:

- (1) All of Texas (inside and outside of the ERCOT region),
- (2) Only the ERCOT power region, and
- (3) Only the areas of the ERCOT power region participating in retail competition.