Filing Receipt

Filing Date - 2024-10-23 02:00:27 PM

Control Number - 53911

Item Number - 119

MEMORANDUM

FROM: Jason M. Ryan, ADER Task Force Chair
Joel Yu, ADER Task Force Vice-Chair

RE: Project No. 53911, *Aggregate Distributed Energy Resource (ADER) ERCOT Pilot Project*

DATE: October 23, 2024

Materials presented at the October 21, 2024 workshop of the ADER Task Force are attached, and a video replay from the October 21, 2024 workshop of the ADER Task Force is available at the following link: https://youtu.be/SweknT1fX1Q

The ADER Task Force will conduct the following workshop on November 18, 2024 to continue to address the four topics set forth in the memorandum filed by Commissioner Glotfelty in this project on August 14, 2024 and to reach a consensus on related task force recommendations.

TOPIC:	discuss topics from August 14, 2024 memorandum and discuss related recommendations
DATE/TIME:	November 18, 2024, 1:30pm-3:30pm
LOCATION:	Virtual Only
TEAMS:	Meeting ID: 294 632 586 135, Passcode: Zm8uGg

ADER Task Force Workshop

September 27, 2024

Agenda

- Opening Remarks (Chair)
- Cmsr Glotfelty Memo Item #1 Discussion (30 min)
  - Scott Hinson, Pecan Street Institute
- ERCOT Recap and Listening Session (20 min)
- Technical Expertise/Institutions - Effort to map MW potential for ADERs – Update (20 min)
- Review issues inventory
- Discuss next workshop scheduling and agenda

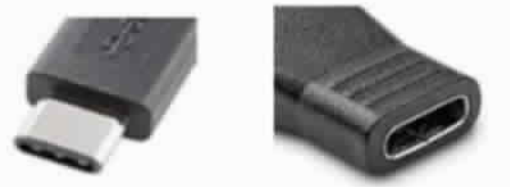
Distributed Energy Resource Interoperability and Accessibility

Austin, Texas
Scott Hinson
CTO, Pecan Street Inc.

PECAN STREET

Why Interoperability?

- Interoperability is essential for ensuring different devices and systems can communicate and work together seamlessly.



USB 3.0 Type C (male)

USB 3.0 Type C (female)

PECAN STREET

Standards Landscape – it can be confusing….

- Safety Standards
  - UL 1741 (Standard for Inverters, Converters, Controllers, and Interconnection System Equipment for Use with DER)s
  - NFPA 70 (National Electrical Code)
- Performance or Functionality Standards
  - IEEE 1547 (Standard for Interconnection and Interoperability of DERS with Electric Power Systems)
  - IEEE 2030.5 (Smart Energy Profile 2.0)

Many standards have aspects of both safety and functionality, to be expected when dealing with critical infrastructure.

Winners are emerging/have emerged:

- IEEE 1547/IEEE 1547a
  - Allows for multiple protocols to meet the communications requirements.
  - **IEEE 2030.5**, DNP3, SunSpec Modbus, and others.
  - Important to keep relevant and adopt the whole standard. Picking and choosing leads to unintended consequences.
  - Not requiring a nationally/internationally accepted standard leads to older or less capable equipment being deployed since it can't be sold anywhere else.

Standards compliance helps ensure interoperability but doesn't guarantee accessibility

- API or security key access can be withheld.
- Critical for consumers, business owners to have freedom to choose aggregator for their equipment.
- Rulemaking must require accessibility in addition to interoperability.
- Accessibility is not necessarily a cybersecurity risk.

Recommendations

- Adopt IEEE and ANSI/UL Standards as a whole.
- Write rule to automatically adopt revised standards as they come out with grace period.
- Rule must require accessibility in addition to interoperability, equipment owners must be able to choose aggregators.

Aggregated Distributed Energy Resource (ADER) Task Force – ERCOT Update

Ryan King
Manager, Market Design

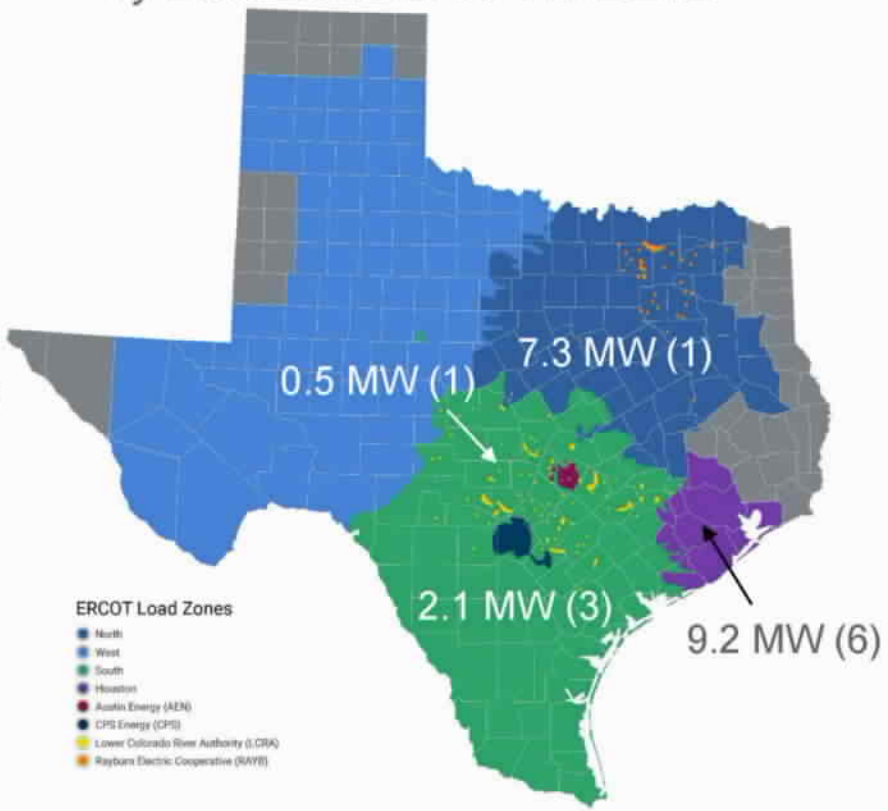
Mark Patterson
Manager, Demand Integration

ADER Task Force Meeting
September 27, 2024

Pilot Participation as of September ‘24

- 2 ADERs fully participating in the wholesale electric market:
  - 14.5 MW for energy
  - 8.6 MW for Non-Spin
  - 8.6 MW for ECRS
- 9 additional ADERs have ERCOT-accepted Details of the Aggregation (DOTA) forms in place:
  - ERCOT-wide energy: 4.6 MW
  - ERCOT-wide Non-Spin: 1.1 MW
  - ERCOT-wide ECRS: 0.1 MW
- Seeing actual activity on 4 of these 9 ADERs (e.g., updating DOTAs, telemetry validation, qualification testing, etc.)
  - 2.2 MW of 4.6 MW total

MWs for energy and count of ADERs by Load Zone for all 11 ADERs



Pilot Participation as of September ‘24

		LZ_AEN	LZ_CPS	LZ_HOUSTON	LZ_LCRA	LZ_NORTH	LZ_RAYBN	LZ_SOUTH	LZ_WEST	ERCOT-WIDE
Energy	Limit (MW)	2.8	5.3	20.3	3.1	28.7	1.2	10.3	8.2	80.0
	Approved (MW)	0.0	0.0	9.2	0.5	7.3	0.0	2.1	0.0	19.1
	Unused (MW)	2.8	5.3	11.1	2.6	21.4	1.2	8.2	8.2	60.9
	% Full	0%	0%	45%	16%	25%	0%	20%	0%	24%
Non-Spin	Limit (MW)	1.4	2.7	10.1	1.6	14.3	0.6	5.2	4.1	40.0
	Approved (MW)	0.0	0.0	4.7	0.0	4.6	0.0	0.4	0.0	9.7
	Unused (MW)	1.4	2.7	5.4	1.6	9.7	0.6	4.8	4.1	30.3
	% Full	0%	0%	46%	0%	32%	0%	8%	0%	24%
ECRS	Limit (MW)	1.4	2.7	10.1	1.6	14.3	0.6	5.2	4.1	40.0
	Approved (MW)	0.0	0.0	4.0	0.1	4.6	0.0	0.0	0.0	8.7
	Unused (MW)	1.4	2.7	6.1	1.4	9.7	0.6	5.2	4.1	31.3
	% Full	0%	0%	39%	8%	32%	0%	0%	0%	22%

12

Recent Discussions on Active ADERs

- ERCOT staff has been having several discussions with individual pilot participants and other interested parties, with topics including:
  - Details on how to provide telemetry and other market submissions to ERCOT;
  - Updates to DOTA forms;
  - Telemetry validation;
  - Ancillary Service qualification and testing; and
  - Other general questions about the pilot and how to participate.

13

ERCOT's Focus for Phase 3 of the Pilot

- In thinking about how to best expand participation in the pilot, the primary focus of ERCOT staff has been an additional participation model that allows "blocky" response (more details on the next slides).
  - "Blocky" generally refers to a participation model where a Resource can participate in the Ancillary Services market without having to following 5-minute Real-Time Market dispatch.
  - This already exists for Load Resources today.
  - With additional time and review, there is a way to accomplish this mode of participation without changes to ERCOT systems.
- While the primary goal for ERCOT is looking for ways to expand participation in the pilot in a fair and reliable way, this type of participation could have a relationship to multiple points raised by Commissioner Glotfelty in his memo on August 14th.
  - Specifically, under today's rules for Load Resources under the "blocky" participation model, the Qualified Scheduling Entity (QSE) representing the Resource does not have to be the QSE representing the premise/electric provider as the Load Serving Entity (LSE).

Additional Details on the "Blocky" Participation Model Approach

- Aggregations of "blocky" devices/premises would participate as Non-Controllable Load Resources (NCLRs).
- Aggregation will be registered and modeled like other ADERs but using NCLR categories for Resource parameters in ERCOT's Resource Integration an Ongoing Operations (RIOO) system.
- Real-time 2-second telemetry would still be required from the QSE to ERCOT using all NCLR attributes.
- These ADERs would be dispatched by the Ancillary Service Deployment Manager like other NCLRs.
- Since these Resources would be registered and participating as NCLRs, Section 3.6.1 (4) of the Protocols would not apply and the QSE representing the ADER could be a QSE who is different than the one who represents the LSE serving the Load of all sites within the aggregation.
  - The Protocol would not apply unless otherwise stated in the governing document.

Additional Details on the "Blocky" Participation Model Approach

- Telemetry changes for "blocky" ADERs:
  - For device-level telemetry validation, we would require 5-minute interval data from each device (1-minute data will still be required for SCED dispatchable ADERs)
  - Validation Metric change: Of these intervals being evaluated, the telemetered value must be within 50% of the aggregate premise-level data averaged over each 15-minute Settlement interval when the Total Expected Registered Capacity is less or equal to 1 MW, or within 10% of the aggregate device-level data averaged over each 15-minute Settlement interval when the Total Expected Registered Capacity is greater than 1 MW.
- Deployment performance will use meter before – meter after, like other NCLRs. The 5-minute meter before baseline is similar to existing NCLR requirements.

16

Next Steps

- ERCOT staff will continue engaging with the current, active pilot participants on submissions, validations, and qualifications.
- A review of the current governing document for the pilot has been started to identify the types of changes that would be needed for the concept that has been laid out in this presentation.
  - The changes to the governing document will be substantial as compared to the changes that were required between phases 1 and 2.
  - While this is likely to be beneficial and the feedback has been positive, the degree to which this additional participation model will increase the number of MWs in the pilot is unknown.

17

Roadmap to 80 MWs and Beyond

- Issues Inventory
  - PFR/RRS enablement for ADERs, while relaxing SCED performance requirements – distributed batteries/smart thermostats
  - Program caps? Ability to accommodate larger <1MW sites without cannibalizing caps for resi sites
  - Smart thermostats – premise-level validation – Smart Meter Texas challenges (limit on meter reads)
    - Potential parallel effort in SB1699 implementation
  - Telemetry requirements can be a challenge
  - EV opportunity – TBD - None operational in the program today
    - Long duration response from EVs is challenging due to need to preserve charge
    - EVs are generally larger assets and may drive us to the cap faster
  - Accuracy of response can be challenging – option to validate similar to ERS? Virtual telemetry of a modeled/forecasted response with runway for improvement over time
  - Removing requirement that ADERs bring injecting MWs for blocky load pathway?
    - Support a broader set of technologies within heterogeneous ADERs
  - ECRS/NSR duration requirements
  - Do we need some education/data on potential MWs available with the recommended changes/additional resources?
  - Multi-family properties – access to devices by 3rd parties and non-REP aggregations are an enabler

Action Items and Next Steps

- Recap action items

- Workshop #3 Scheduling and Agenda
  - Begin discussion on remaining Glotfelty Memo items
    - #2 Possibility of non-REP VPP provider?
    - #4 How to expand project to allow for larger unites, across zones?
  - Develop consensus on recommendations/action items