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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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In the Matter of the Establishment of a Working Case Regarding FERC Order 2222 Regarding Participation of Distributed Energy Resource Aggregators in Markets Operated by Regional Transmission Organizations and Independent System Operators	))))))

File No. EW-2021-0267

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COLLABORATIVE UTILITY SOLUTIONS RESPONSE TO
ORDER REGARDING OPPORTUNITY FOR ADDITIONAL COMMENTS, ORDER
SCHEDULING WORKSHOP, AND NOTICE OF LBNL REPORT

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COMES NOW Collaborative Utility Solutions, and, in response to the Commission's May 24, 2023, *Order Regarding Opportunity for Additional Comments, Order Scheduling Workshop, and Notice of LBNL Report* (the "Order"), states as follows:

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INTRODUCTION

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1.   Collaborative Utility Solutions ("CUS") thanks the Commission for the opportunity to provide additional comments on its Order and the LBNL report. We commend the outstanding work performed by the Commission and Lawrence Berkeley Nation Laboratory ("LBNL"). The LBNL report provides clarity to the issues that need to be considered going forward and provides a logical framework that all stakeholders can engage with to successfully implement Demand Response ("DR") and Distributed Energy Resources ("DERs) into both retail and market programs. Many different reports have identified the issues that exist, but CUS has not seen any report that provides such a robust framework to guide the process moving forward. The phasing and tiers laid out in this report provide any state the opportunity to consider each issue carefully and then move faster or slower through the defined tiers of implementation with a structured set of phases. While some issues could be ripe for rapid implementation in phase one with a tier one approach to get things moving and see how it works, other issues could be defined as more critical to move to a tier three approach in phase one of

implementation. Simply put, the LBNL framework is robust and provides state Commissions, and the many stakeholders in this process, the flexibility to define their approach and move successfully through this process.

2. CUS is a 501(c)(6) non-profit company that was formed to provide a collaborative DER Registry to the utility industry to save both significant time and money in the administrative process of enabling DERs to retail and market programs. In Australia, the country with the highest penetration of DERs in the world, they found that a central registry for DER information was essential for secure data sharing between the energy stakeholders to simplify the administrative process of registering DERs into programs. The U.S. is now seeing a significant and steadily increasing penetration of DERs on the grid and will face significant challenges for 3000+ utilities and the customers, aggregators, competitive retail suppliers, scheduling coordinators, transmission providers, ISOs, and potentially others to coordinate the registration and approval of a DER or DER Aggregation ("DERA"). CUS was formed to support the industry by providing a DER Registry at the lowest cost possible through a non-profit company that the industry will control and guide as the industry evolves and begins making DERs a valued clean energy resource for grid reliability and retail/market programs. The board of CUS has been designed to allow a voice from each stakeholder industry group on the board, and the member user group is in control of changes/improvements to the Registry with approval from the board. And unlike a traditional competitive software vendor, these changes are included in their membership fees and are not incremental charges. This structure allows the Registry to become less expensive over time instead of more expensive as we have more members utilizing the Registry, and also allows all stakeholders in the industry to be represented and provide a leadership role in continual improvements to the Registry over time.

3.   The implementation of FERC Order 2222 will impact every aspect of the utility business and the core systems used by the industry, including the CIS, GIS, OMS, ADMS, EMS, planning systems, and potentially many more. The DER Registry has been designed using the IEC Common Information Model to allow each of these systems to be able to exchange data with the Registry via this protocol to reduce every utility's cost of implementing FERC Order 2222. As this proceeding has specific questions which the DER Registry is designed to address, CUS is filing these comments to provide more information on the capability of the Registry in relation to these questions. For this filing, we shall use the term DER under the FERC definition as it includes demand response, and our comments are centered on providing a solution for all DERs equally.

4.   In the following, we have not provided responses to all questions in the Order but have retained the text of all the questions for clarity.

COMMENTS ON SPECIFIC QUESTIONS

A. Size Limitations for Demand Response (DR) Eligibility:

Question 1.   What impact could any of these limits have on implementation of a modified opt-out as applied to C&I customers in terms of reliability, participation or the need for additional regulations?

5.   Larger size limits historically have been intended to lower the administrative burden for program administration. The DER Registry alleviates a significant portion of this administrative burden and makes lower size limits feasible. However, other reliability and jurisdictional/operational considerations vary from state to state and utility to utility, and stakeholders in Missouri will have the best insight on the appropriate limits for the state. However, we reiterate that the Registry is designed to dramatically simplify the overall registration process for all stakeholders regardless of where any size limitations are set.

Question 2.   Should the Commission establish different size limits for different utilities based on customer classes?

6.   The distinction of customer classes most likely will be a consideration for phased implementation of programs. However, imposing maximum and minimum limits may have unintended consequences. For example, since the DER capability of residential sites generally will be significantly lower than commercial sites, a requirement to meet a higher threshold limit will create barriers to entry for aggregators to collect enough residential sites to meet that threshold. Conversely, while a lower maximum limit may be workable for aggregations of residential DERs, a low maximum limit may undermine the ability to aggregate commercial DERs. Therefore, there is a case to be made for different size limits by customer class.

Question 3.   Should these size limits apply to a single location, or should a single customer be permitted to aggregate multiple locations to meet the threshold?

7.   A single customer, or a single aggregator, should be allowed to aggregate multiple locations to meet the threshold.

Question 4.   How many in terms of numerical value and as a percentage of the C&I customer classes and any specific sub-classes and what types of customers (with and without aggregated load) would be included within the proposed thresholds?

Question 5.   Should there be a maximum aggregated size limit?

8.   From a programmatic point of view, there is no need for size limits for an aggregation. However, there are reliability issues that may be directly impacted if an aggregation is significant on a single distribution feeder. The DER Registry utilizes the ESRI ArcGIS platform and requires both the geographic and electrical location of the DER to be specified when registering. This detailed information will allow any utility, ISO, or grid operator to use the Registry to appropriately assess each individual DER and its participation in an aggregation going forward.

B. Dispute Resolution:

Question 1.   As to utilities with affiliates in states that allow ARCs:

a.	**How are relationships between utilities and ARCs managed?**

9.	Each program, utility, and ISO have different processes. The Registry is designed to incorporate this variability and serve the needs of each stakeholder according to the defined process.

b.	**What types of disputes arise, and how frequently?**

10.	The Registry reduces the potential for disputes by providing a single source of necessary data for each DER while allowing secure data sharing and access to the specific data identified by the state Commission for each stakeholder in a timely fashion.

c.	**How are disputes resolved?**

**Question 2.	As to the ARCs:**

a.	**How do they manage relationships with utilities?**

b.	**What types of disputes arise, and how frequently?**

c.	**How are disputes resolved?**

**Question 3.	As to MISO and SPP:**

a.	**What types of disputes arise related to third-party demand response, and how frequently?**

b.	**How are those disputes typically resolved?**

c.	**What disputes, if any, have been resolved by the state utility commission or other state regulatory authority?**

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C. Double Counting/Dual Participation:

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**Question 1.	Should the Commission clarify whether a C&I customer can participate only in the wholesale market or only in the retail market? How should this clarification be made?**

11.	DERs have already proven to be a valuable tool for distribution utilities to manage peak load, improve power factor, improve phase balance, defer or eliminate feeder/substation upgrades, support volt/var management, create available capacity for electrification without upgrade, and

generally support reliability, resiliency, and cost control. While the majority of the industry conversation is centered around a DER operating in a market program, the positive impacts to the retail sector must not be left out in this process. The Registry has been designed to allow dual registration of a DER into both retail and market programs while ensuring the resource is compensated according to the regulatory rules established by the ISO and regulator for this dual participation. At the same time, the Registry eliminates any possibility of a DER being registered in multiple programs by multiple aggregators. It is not possible for a DER to be assigned to more than one aggregator or competing retail and market programs. Many states have retail and market DR programs, and there have been many different issues in customers registering in both the retail program and allowing an aggregator to register them in a market program. The Registry can ensure this is not possible for any DER or DER Aggregation.

12.   CUS encourages the Commission to allow the opportunity for a DER to be utilized for its 'highest and best use' each hour of each day. While a retail program may make use of the DER almost every day to manage the distribution system, market programs are likely to call on the resource much less frequently, or vice versa. It should be possible for a DER to be utilized according to the highest value it can deliver at any given time. It is possible to allow dual participation in retail and market programs if effective rules are established for compensation, such as California has done with their battery compensation and participation rules and New York has clearly outlined in their ruling specifically around DER dual participation in retail and market programs. We do not suggest that these are the specific rules to adopt, but we simply provide them as examples of clearly defined rules of dual participation and compensation. Therefore, CUS suggests that DERs be allowed to participate in both retail and market programs and reiterate the Registry is designed to allow this possibility while eliminating any 'double counting' or 'dual compensation' for a DER.

13.   It is also important to note that the Registry will eliminate any administrative burden for all stakeholders to produce reports for any regulatory authority. The Registry is designed to allow common monthly/quarterly/annual reports to be autogenerated by the Registry. In addition, the regulator has full access to the Registry to look at any of the data at any time and generate a report. If custom reports are desired, CUS will work with the regulatory authority to develop the reports and make them available to be generated at any frequency required. As DERs continue to expand, this capability of the Registry will eliminate significant costs for all stakeholders while providing timely and accurate information to the regulatory authority.

Question 2.   If dual participation in the wholesale and retail markets for different services is allowed, how would improper double counting be identified and avoided?

14.   Clearly defined rules for participation and compensation must be implemented. As noted in the above response to the prior question, the Registry is designed to incorporate these defined rules and govern the DERs according to these rules automatically, without any additional oversight by the ISO, utility, or regulator, in order to eliminate 'double counting" or 'dual compensation' for DERs.

Question 3.   What specific internal processes and procedures would utilities need to implement to address double counting under the requirements and procedures imposed by MISO or SPP?

15.   As these processes and procedures will have differences, each would have to be considered individually. However, having an electronic system like the Registry that can incorporate these different rules and manage the DERs effectively between the DER owners, aggregators, DSOs, TSO, ISOs, scheduling coordinators and their regulatory authorities is the only feasible solution when dealing with thousands, tens of thousands or millions of DERs over time. Attempting to manage any aspect of this process manually or by 'passing spreadsheets' back and forth will cause the system to fail and put customer data at risk.

D. Data Governance:

Question 1.   Do existing utility tariffs include provisions related to customer data privacy?

   a.   What revisions related to third-party demand response aggregation, if any, would be necessary?

16.   One of the most effective implementations for customer data privacy we have seen is in Michigan. They have adopted a data privacy structure that requires a customer to sign the required privacy agreement to be able to participate in a program. The Registry is designed to allow a requirement for a customer to execute the required privacy document during the registration process prior to selecting an aggregator or participating in any program. In addition, if required, the Registry also can require an aggregator to execute this agreement prior to accepting its first customer in the state's jurisdiction. While it would be redundant to require them to execute this agreement for each customer, we would suggest the privacy statement clearly outline that an aggregator's responsibilities apply for any customer they represent in the state so the aggregator can execute the agreement one time. These executed documents can be a requirement of participation in any program if the regulatory authority establishes this criterion.   This same process also can apply to any stakeholder that the regulatory authority allows access to the Registry.

17.   To provide additional protections for privacy and security, the Registry is designed to allow each regulatory authority to determine which stakeholder can access any individual data element in the Registry. Per the graphic below, the regulatory authority can specify, for every data element in the Registry, who should be allowed to view that piece of data. We understand that a state's legal governance of an aggregator participating in a market program may be an unresolved issue. However, we also believe that aggregators would voluntarily support these data privacy rules if required to allow them to expand their portfolios. The Registry makes this process much simpler for everyone to adopt by securely managing and sharing all necessary data with the appropriate stakeholders.

WHO HAS ACCESS TO THE DATA? (Each Regulatory Authority to define) — **DER RESOURCE RECORD CREATION**

*REQUIRED DATA — DER Registry

Sched Coord	Comp Retail Supplier	Equip Mfg	Aggregator	Regulatory Authority	ISO/RTO	TSO	DSO	Owner Agent	DER Owner	Entered by:		Field Description
												DER OWNER INFO
	X		X	X			X	X	X	DER Owner*		First Name (As it appears on utility bill)
	X		X	X			X	X	X	DER Owner*		Last Name (As it appears on utility bill)
	X		X	X			X	X	X	DER Owner*		Address 1 (As it appears on utility bill)
	X		X	X			X	X	X	DER Owner*		Address 2 (As it appears on utility bill)
	X		X	X			X	X	X	DER Owner*		City
	X	X	X	X			X	X	X	DER Owner*		State
	X	X	X	X			X	X	X	DER Owner*		Zip
	X		X	X			X	X	X	DER Owner*		Phone Number (premise)
										DER Owner*		Phone Number (mobile)
	X		X	X			X	X	X	DER Owner*		Email
X	X		X	X	X	X	X	X	X	ESRI*		GPS Coordinates
	X		X	X			X		X	DER Owner*		Utility Account Number
X	X	X	X	X	X	X	X	X	X	DER Owner*	pick list	Distribution Utility Service Provider
X	X		X	X	X		X	X	X	DER Owner*	Y/N	Do you have a Competitive Retail Supplier (CRS)?
X	X		X	X	X		X	X	X	DER Owner*	pick list	Pick your CRS
X	X		X	X	X		X	X	X	DER Owner*	Y/N	Do you have an Aggregator?
X	X		X	X	X		X	X	X	DER Owner*	pick list	Pick your Aggregator
				X			X	X	X	DER Owner*	Y/N	Allow Agent to enter DER Info?
	X			X			X	X	X	DER Owner*	pick list	Pick your Agent
				X			X	X	X	DER Owner*	Y/N	Want info from equip mfg?
										DER Owner*	Y/N	Do you have a different aggregator for Demand Response?
										DER Owner*	pick list	Pick your DR Aggregator
X	X		X	X	X		X	X	X	Registry		Premise Unique ID
X	X		X	X	X		X	X	X	Registry		Aggregate DER Unique ID for premise
X	X	X	X	X	X	X	X	X	X	Registry		Date entered into registry
												SOLAR INFO
X	X		X	X	X	X	X	X	X	Registry		Date Entered into Registry
X	X		X	X	X	X	X	X	X	Registry		Solar Unique Identifier
	X	X	X	X			X	X	X	DER Owner or Agent	pick list	Panel Manufacturer Name
	X	X	X	X			X	X	X	DER Owner or Agent	pick list	Panel Model Number
	X	X	X	X			X	X	X	DER Owner or Agent	pick list	Nameplate Capacity of Panel
	X	X	X	X			X	X	X	DER Owner or Agent		Number of Panels

18.   Customer data security and access should be addressed in the process of establishing any program. Across the industry worldwide, many programs are passing customer data back and forth across email in spreadsheets. This allows the data to be corrupted and easily 'hacked/stolen'. Customer data should be managed much more carefully and be governed by a specific privacy policy approved by the regulatory authority for any stakeholder that is granted access to this data.

Question 2.   What customer information is generally shared between the utility and the ARC?

a.   What information, if any, is public information?

Question 3.   How do ARCs protect customer information?

19.   CUS would welcome the opportunity to work with IT/Security teams to demonstrate the security architecture of the Registry to protect customer information.

Question 4.   How do ARCs protect their systems from cybersecurity threats?

20.   CUS would welcome the opportunity to work with IT/Security teams to demonstrate the security architecture of the Registry to guard against any cybersecurity threats. In addition, CUS would also note the NERC report, "Cyber Security for Distributed Energy Resources and DER Aggregators" as an important guide for this discussion.

Question 5.   Would adoption of Green Button or similar alternative facilitate timely and accurate demand response registration?

21.   Green Button was established to provide consumers 'real-time' access to their meter data. This type of data is invaluable to the consumer and their aggregator to effectively manage their participation in any program and have the opportunity to effectively manage their electricity use. Many home energy management systems can utilize this data stream to provide recommendations to customers and help them find 'ghost loads' in their home. However, the registration process typically utilizes historical data information that has been subjected to the industry standard process of verification to ensure the data is correct. As a result, utilizing this 'raw' information for any function beyond 'real-time' operation could create conflicts between the consumer/aggregator and the program administrator or settlement administrator.

a.   Are there any implementation constraints related to adopting Green Button or similar alternative?

22.   Green Button has been implemented by a variety of states and utilities with varying degrees of success. Many of these states and utilities have openly shared their lessons learned in a variety of forums, and we believe they would welcome the opportunity to share these lessons with Missouri as they consider Green Button as a tool for the state and its stakeholders.

E. Regulatory Gaps:

Question: If the Commission modifies its opt-out to permit third-party demand response for C&I customers, what regulatory gaps, if any, exist under MISO and SPP rules governing demand response?

WHEREFORE, Collaborative Utility Solutions submits these responses in accordance with the Order.

Respectfully submitted,

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ATTORNEY FOR COLLABORATIVE UTILITY SOLUTIONS

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing Comments were served on all parties of record in this proceeding via electronic mail (e-mail) or via regular mail on this 21st day of June 2023.

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Michael J. Jewell