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Microgrid Resources Coalition Comments on Interconnection Workshop

Additional submitted attachment is included below.

May 31, 2023

California Energy Commission
Docket Unit MS-4
715 P Street
Sacramento, CA 95814

RE: Docket 23-IEPR-05 Microgrid Resources Coalition Comments on IEPR Commissioner Workshop on Clean Energy Interconnection – Identifying Barriers and Solutions in the Electric Distribution System

I. Introduction

The Microgrid Resources Coalition ("MRC") is an association ofleading microgrid owners, operators, developers, suppliers, and investors formed to promote microgrids as energy resources by advocating for policy and regulatory reforms that recognize and appropriately value the services that microgrids offer, while ensuring non-discriminatory access to the grid for various microgrid configurations and business models. We work for the empowerment of energy customers and communities.

The MRC respectfully submits these comments on the Integrated Energy Policy Report ("IEPR") Commissioner Workshop on "Clean Energy Interconnection – Identifying Barriers and Solutions in the Electric Distribution System" that was held on May 9, 2023.

II. The Importance of Interconnection

The MRC greatly appreciates the efforts of the California Energy Commission ("Commission") to solicit information on interconnection timelines and processes for distributed energy resources ("DER") seeking to interconnect to the electric distribution system. Interconnection serves as a major bottleneck in the clean energy development process – it impacts all types of clean energy projects that are in development by thousands of customers and communities across all corners of the state of California. Interconnection can be time consuming, administratively burdensome, and costly to applicants seeking to integrate new energy assets into the electric system. Interconnection is a crucial variable that directly impacts California's ability to deploy new clean energy capacity in an efficient, timely manner. Interconnection barriers are hindering California's ability to maintain electric system reliability and continue making forward progress on state decarbonization goals.

The MRC is encouraged that the Commission is taking a policy leadership position to address DER interconnection issues more broadly. California must invest new resources into expanding its interconnection processing capacity to meet the increased demand for electricity service and facilitate expeditious grid interconnection as the state continues its clean energy transition. The MRC applauds the Commission for undertaking the effort to improve the processes by which all clean energy resources are required to interconnect to the electric distribution grid and relieve pressure on this critical bottleneck in the energy system. The Commission's leadership and coordination across multiple agencies and with various stakeholders will be critical.

III. Recommendations for Interconnection Process Improvements

The MRC has identified several key barriers that developers and customer face when going through the current interconnection process that can be addressed through policy changes and targeted investments in new interconnection resources that are designed to increase application processing capacity, standardize technical review protocols, reduce administrative burdens on all stakeholders, and improve overall efficiency in the process so that California can speed up interconnection timelines for new clean energy projects that can meet the state's decarbonization and climate goals within their mandated timelines.

Increase visibility in the interconnection queue and reduce timeline inconsistencies

Many MRC members have cited various challenges associated with the interconnection application review and approval process. The lack of visibility into the interconnection queue, coupled with the lack of consistency and uncertainty surrounding the utilities' meeting their own timelines, is one of the largest barriers for customers and developers seeking to build and interconnect new clean energy projects. Developers are entering into contracts with customers for new projects that often include contractual commitments to achieve specific commercial operation dates or meet other project milestones in a timely manner. Without visibility into the queue or timeline certainty, developers cannot predict with any real accuracy how long their projects will take to get approval to interconnect, or how potential interconnection delays may impact other project construction timelines. This, in turn, affects the estimated cashflows of projects, the project developers' ability to deliver a good customer experience, and many other variables that go into completing a successful clean energy project. These uncertainties in the interconnection process introduce unnecessary risk to developers and customers.

There are many inefficiencies in the existing interconnection process that serve as additional barriers to project developers, including the extensive technical review and approval process that is still largely handled in an analog fashion today. There is often a lot of back-and-forth communication between developers and utilities debating the technical solutions that are needed to get interconnection approval for each individual project, which is inefficient, administratively burdensome, and not scalable. The customized approach to interconnection review on a project-specific basis reveals many inconsistencies in the approval process.

For example, new service applications and load studies that are necessary to complete in order to proceed forward in the electric grid interconnection ("EGI") process are conducted by a separate department (service planning) instead of the EGI department. Unlike the EGI guidelines in Rule 21, there is no firm timeline for completing load studies that are meant to examine new load impacts on the system, and there are no standardized frameworks in place for evaluating new loads that are proven to be controllable, such as microgrids that can help optimize EV and battery charging operations. There is no recourse for developers if service planning is not timely completed and no escalation process to help rectify any other issues that might arise in service planning. Ideally, the service planning processes should mirror the same general processes and timelines for completing load studies as what has been established for electric grid interconnection. The MRC would recommend that the Commission evaluate the two processes and make recommendations on how they can be integrated together so that the full

interconnection process for all new applications, whether for new service or DER asset integration, is more coordinated and streamlined.

The interconnection process should update and improve the accessibility of standardized engineering resources that have been approved by utilities for use by developers to help reduce administrative burdens and increase efficiency. Keeping the Greenbook information updated on a regular basis and publishing standardized engineering documents, such as approved equipment specs, that developers can quickly and easily access will enable them to move forward with building projects faster without having to wait for utilities to respond to inquiries and requests for updated engineering documents that have not been published. This will reduce interconnection timeline delays and minimize excessive communications that can become administratively burdensome for all involved in the process.

Investments mut be made in new interconnection resources to further streamline and expedite application reviews, as well as modernize the entire interconnection process by incorporating new digital grid modeling solutions to address challenges. California should explore how it can leverage automation, software, or other digital review mechanisms that can greatly increase efficiency in the interconnection process and further accelerate timelines. The Commission should develop more standardized protocols to streamline technical reviews, allow flexibility to use more technology solutions that can meet specific functional goals and technical requirements, and direct the utilities to provide more visibility into their queues so that developers can estimate interconnection timelines with greater accuracy and certainty.

Treat microgrids as a single controllable resource in the interconnection process and acknowledge grid-connected microgrids as dynamic load

As the Commission understands, microgrids are defined as an interconnected system of resources that act as a single controllable entity with respect to the larger electric distribution system. Microgrids should be recognized as such by grid operators; they should be treated as a single resource when evaluated in the interconnection application review and approval process. They often include both synchronous and nonsynchronous resources, storage (both electric and thermal), and demand response capabilities. Microgrids have a sophisticated, comprehensive microgrid controller that manages all resources, including demand response, to permit it to operate in balance when islanded from the grid.

The functionality of these controls can be tested as a part of interconnection final approval, and in the experience of our members they compare favorably to physical controls. Evaluating interconnection of a microgrid accordingly requires analysis of its collective capability to manage, for example, frequency and voltage at the meter and ability to ride through minor grid disruptions in addition to its expected export capability. The capability of any single resource can be balanced by the capabilities of others. Microgrids should be evaluated based on their net export expectation given their included load and true physical impact to the distribution grid as a single resource, rather than examining the gross nameplate capacity of each included resource. Microgrids are designed principally to serve onsite customer load, so while microgrids are certainly capable of exporting power, the net export of a microgrid will typically be far less than the total capacity of all its included resources and will be under the control of the microgrid operator.

Microgrids should not be considered "departing load" once interconnected to the grid, microgrids should be considered *dynamic load*. The interconnection review process should account for the unique capabilities of microgrids and the multifaceted benefits they provide to the electricity system and local distribution grid. Microgrids can export capacity when called upon by the grid operator, provide firm load reduction via intentional islanding, intelligently manage demand and shape customer loads to meet electric system and local grid needs, and can provide other distribution support services to utilities and grid operators. Microgrids are versatile and sophisticated energy resources that can provide tremendous value to the electricity system when interconnected to the grid. Grid-connected microgrids should not be treated as "departed load". Once they are successfully interconnected to the grid, microgrids become *dynamic load*.

IV. Comments on Recommendations from the Workshop

The MRC greatly appreciates the Commission facilitating a robust workshop discussion on distribution interconnection processes and organizing a diverse set of experts and stakeholders to share ideas and prospective solutions to meet California's interconnection challenges. The MRC supports many of the recommendations made in the workshop that would accelerate timelines and improve efficiencies in the interconnection process.

MRC supports all state efforts to expand interconnection application processing capacity by increasing investments in new interconnection staffing, workforce expansion, and other personnel resources

The MRC supports the expansion and growth of the interconnection workforce by increasing investments in new personnel resources and other third-party solutions that can accelerate interconnection application processing and review timelines. The Commission should direct the utilities to undertake an emergency hiring effort to recruit new personnel resources that can process a much larger volume of clean energy interconnection applications in a more timely and expeditious manner. The Commission should launch this immediately and establish hiring targets for utilities that should be met by a date certain to ensure proper resourcing for meeting interconnection needs. The Commission should also examine the potential to automate more interconnection activities and invest in software-based solutions that could increase efficiency and modernize the process in a manner that benefits all stakeholders, including utilities, developers, customers, and regulators. California should plan for the continual increase in demand for expeditious interconnection to the electric distribution grid and make proactive resource investments now so that the state can meet existing interconnection needs and future demands.

The Commission should permit and encourage third-party solutions that can provide additional support to the utilities and help further expedite the interconnection process. The state may want to outsource more interconnection review activities that the utilities are not completing in a timely manner, including hiring contractors and external personnel with dedicated responsibilities to meet specific objectives. The Commission should also allow developers and other third parties to conduct their own interconnection studies, engineering analyses, and/or complete other interconnection activities. Once complete, these third-party analyses and interconnection study results could simply be reviewed and certified by the utilities, or quickly

approved through an automated process in the future, instead of waiting in the queue for the utilities to do all the work from start to finish themselves.

For example, the low-cost telemetry option is being rolled out where third parties are conducting these activities instead of relying solely on utilities. This has so far proven to be successful at accelerating interconnection timelines because third parties are able to do more of this work on a faster timeline with less ratepayer costs. This is a great example of how developers and third parties can support utilities with interconnection activities and relieve some of the bottleneck pressures at various stages of the interconnection process.

Developers should also be allowed to bring in qualified, certified, third-party electricians to assist with performing certain pre-authorized actions, such as disconnecting and reconnecting switches or removing transformer fuses, so that developers can quickly operate other construction and interconnection activities to help speed up the interconnection process further. This process is being utilized by utilities in east coast states with interconnection challenges so there is some precedent for considering this request in California. Oftentimes, the utilities must deprioritize interconnecting microgrid and DER projects in order to focus on installing new services or reconnecting customers during a storm. Developers can take these activities off the utilities' hands and allow interconnection progress to continue while the utilities focus on higher priority activities that are essential to maintaining grid operations.

The Commission should facilitate a more inclusive "all hands-on deck" approach to implementing new interconnection solutions that will accelerate project development timelines, improve the customer experience, and enable the state to meet its decarbonization goals on time. The current distribution grid interconnection process is slow, inefficient, and imposes unnecessary risks on project developers and customers seeking to deploy new clean energy capacity in furtherance of California's goals. Interconnection has become a huge bottleneck in the project development process and serves as a major barrier to scalability and broader commercialization of DERs across the state.

MRC strongly supports the implementation of Performance Based Regulation for utilities to encourage more expeditious and efficient interconnection of new clean energy projects

It is absolutely vital that established timelines for interconnecting new customers and clean energy projects, which are outlined in state-approved distribution interconnection guidelines, be adhered to more strictly in order to provide certainty. The absence thereof has resulted in significant negative impacts to customers, developers, businesses, public agencies, and local communities which are seeking to build new residential housing, commercial facilities, and construct new clean energy projects that are necessary to meet California's decarbonization and reliability goals. The MRC encourages the Commission to implement Performance Based Regulation ("PBR") for interconnection and establish Performance Incentive Mechanisms ("PIMs") that align utility incentives with customer needs and state goals to encourage more expeditious and efficient interconnection of new clean energy projects.

The MRC strongly supports the PIM recommendations derived from Hawaii's experience, which have thus far proven to be successful in the initial stages of PBR. We urge the Commission

to leverage Hawaii's PBR efforts and lessons learned to lay the foundation for California to establish its own PBR framework, starting with interconnection. There has not been enough accountability or enforcement of interconnection timelines, and we request that the Commission consider taking a more active role in assuring timely interconnection. PBR is an ideal solution to address California's interconnection challenges and the state can benefit from the groundwork done in Hawaii and other jurisdictions to inform its own PBR implementation process.

Microgrids should be able to operate independently before interconnection to meet immediate customer needs and be permitted to continue grid-parallel operations after interconnection

The workshop discussion raised some compelling ideas about using onsite generation to power new customer loads while customers wait for interconnection to the distribution grid. The MRC strongly supports this concept and encourages the Commission to develop a guideline that allows any clean energy project awaiting interconnection to operate as a microgrid at the project site both before and after receiving permission to interconnect to the distribution grid. As discussed in the workshop, clean energy projects often sit idle for months or even years before interconnection can take place, despite otherwise being technically ready to provide electric service. Customers cannot and should not have to wait in the interconnection queue for an uncertain and lengthy period before receiving electric service. Microgrids and onsite power solutions can support near-term electricity demands and meet immediate customer electrification needs before and after interconnecting to the distribution grid.

Commissioner Gunda raised an important question in the workshop on this topic inquiring about the opportunity for onsite power generation sited at one customer location to be shared with neighboring customers. This is technically possible and MRC members and other clean energy developers would love to be able to do this. However, there are significant regulatory barriers that prevent onsite resources from sharing power with adjacent facilities and neighboring customers. Unclear legal interpretations of Public Utilities Code Section 218 and overly strict Electric Rule 18 regulations limit the ability of customers to share power between adjacent facilities, even if on one property, as well as locally across property lines. If these barriers were reduced, we could unlock tremendous energy optimization benefits at the local and community level, maintain local reliability and resilience, create a smooth and affordable pathway for customers to make the electrification transition, and reduce costs for all ratepayers.

With the advent of onsite power solutions that are becoming more cost-effective over time, California must remain conscious of the unintended consequences that could result if customers start to choose off-grid solutions instead of interconnecting to the distribution grid. The state should be encouraging decentralization, not defection, as the energy system evolves. California should strive to create price signals and incentives for customers to stay connected to the electric grid long term. Regulators should encourage customers to participate in the state's decarbonization and grid modernization efforts. Meeting our state climate and energy goals requires an all-hands-on-deck approach with contributions from all customers, communities, developers, utilities, and regulators together.

The Commission should include "Strategic Decentralization" in the next edition of the IEPR and outline a statewide policy framework and implementation roadmap. Decentralization can

serve as a core state strategy that simultaneously achieves many California policy goals: climate adaptation, electricity cost reduction, community energy resilience, environmental justice, wildfire risk mitigation, accelerating California's progress on decarbonization and electrification, while ensuring electric system reliability and customer satisfaction.

V. Conclusion

The MRC applauds the Commission for addressing clean energy distribution interconnection issues in the next edition of the IEPR and appreciates the opportunity to provide comments on the Commission's workshop.

Respectfully submitted,

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