

December 24, 2019

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Informal Comments of the California Energy Storage Alliance (CESA) on Resiliency-Focused Interconnection Proposals for Consideration in R.17-07-007 and R.19-09-009

Dear Mr. Jose Aliaga-Caro:

The California Energy Storage Alliance (CESA) submits these informal comments for consideration by the Commission Energy Division to support streamlined and expedited interconnection to provide customer resiliency ahead of the upcoming wildfire seasons. CESA defers some of the detailed technical proposals to our members, who are submitting their own informal comments, but we strongly support the technical and process proposals by NantEnergy, Tesla, and 33 North. In these comments, CESA offers some higher-level proposals that we recommend for expeditious consideration and adoption.

A Scoping Memo was recently issued in the Microgrids rulemaking, R.19-09-009, on December 20, 2019 that set forth a preliminary Track 1 scope of issues, which includes prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations. However, the Scoping Memo seeks to conclude these issues by Spring 2020 with implementation by September 2020, which creates challenges for some resiliency-focused interconnection proposals that could be adopted and implemented earlier to allow for the proposals to take effect and support resiliency needs ahead of the 2020 wildfire season. As scheduled in the Scoping Memo, however, there may be limited opportunities for the Track 1 proposals to have material impact ahead of the 2020 wildfire season. As such, the Commission should consider proposals in R.19-09-009 that could be either: (1) adopted without necessitating Commission decision; or (2) adopted on a further expedited track within Track 1 to allow for Commission decision by the end of February 2020.

One of the key barriers to single-premise microgrid solutions is interconnection. According to our members, storage interconnections for resiliency can take 12-18 months from interconnection application to permission to operate (PTO). No matter the incentive amount given to storage projects to support their deployment for resiliency, such as through the Self-Generation Incentive Program (SGIP), technical interconnection barriers must be addressed to enable customers to take advantage of these valuable resources. As such, CESA appreciates the opportunity to present interconnection proposals and ideas to support immediate and scalable standalone and paired storage deployments that can support near-term customer resiliency while ensuring safe and reliable interconnections.

I. General streamlining of the interconnection process will be instrumental to supporting standalone and paired storage projects.

CESA appreciated the additional detail provided by each of the investor-owned utilities (IOUs) at the Interconnection Discussion Forum (IDF) held on December 16, 2019. In particular, CESA stresses how the lessons learned from the pilots should be considered as part of resiliency-focused interconnection proposals given that actions taken to streamline or expedite the general interconnection process will support resiliency-focused storage projects as well in getting interconnected and deployed. For example, the Commission should direct the utilities to frontload interconnection agreements as much as possible and encourage the utilities to waive witness commissioning, where virtual photo inspection could save two to three weeks in the interconnection process. The Self-Generation Incentive Program (SGIP) also implements a similar virtual inspection process to verify energy discharge capacity and configurations in line with the incentive application. Additionally, online payments have played a major role in reducing interconnection timelines by over a month.

Given this, CESA recommends that the Commission direct the IOUs to assess their interconnection processes and identify areas of further streamlining that could produce incremental savings to the interconnection timeline. Weeks or months could make a difference for some customers getting some resilient standalone or solar-paired-storage projects deployed and operational in time for the 2020 wildfire season and much more in time for the 2021 wildfire season. CESA imagines that some of these process changes are readily implementable and can present quick-fix solutions to all distributed energy resource (DER) interconnections.

II. Template designs are needed for standardized single-premise microgrid configurations.

CESA is strongly supportive of Tesla's proposal to move away from site-specific designs to template-based designs for solar-plus-storage systems that provide customer resiliency by operating in either isolated operation or backup mode. Rather than having utility engineers assess every specific site design, CESA instead recommends that a technical working group be convened jointly in R.17-07-007 and R.19-09-009 to create a shortlist of pre-approved designs via a single-line diagram that would be eligible and processed through the Fast Track process. These templates should include utility-approved equipment lists, including certified automatic transfer switches (ATS) with suitable status signal lines, critical sensors, isolation and black-start transformers, grid-forming inverters, and genset meters and contactors, among others.

NantEnergy, a CESA member, for example, has presented and submitted one such template, which should be considered by the Commission and the utilities, but a working group could be activated to broaden the call for template designs that codify pre-approved solutions. In CESA's experience, developers will generally standardize their system configurations that they submit for interconnection review, such that pre-approved and standardized templates by each

of the major developers could facilitate the deployment of single-premise microgrid solutions (e.g., Template X for NantEnergy, Template Y for Tesla, Template Z for Stem).

III. The “Smart Meter Remote Disconnect for V2G Resiliency” Pilot should be tested by one or more utilities.

Electric vehicle (EV) batteries have significant potential to provide customer resiliency, especially when considering how EV batteries have significant energy capacity (e.g., typically 30 to 80 kWh depending on the EV model) as compared to stationary energy storage systems. Interconnection of EVs with mobile onboard inverter functionality (i.e., known as V2G AC systems) is the subject of a separate subgroup effort in R.17-07-007 and R.18-12-006, and CESA recognizes that there are technical issues and gaps that are being worked through in order to allow for their grid interconnection, but the technical proposal as prepared by 33 North Energy presents a unique opportunity to allow vehicle-to-home (V2H) or vehicle-to-building (V2B) systems to be able to discharge to serve host load only during periods when the customer is disconnected from the grid, thus bypassing the interconnection concerns of V2G AC systems at this time.

Utility smart meter remote disconnect switches may offer customers affected by public safety power shutoff (PSPS) outages an alternative method to connect batteries, generators, or other devices (such as a V2G-AC system) to a transfer switch installed behind the customer’s meter. Specifically, this proposal is premised on the utility being able to turn off and disconnect service at the meter prior to section or circuit de-energization, thus intentionally islanding the customer from the distribution grid. When islanded with a transfer switch, the customer could use backup power sources that are not usually allowed for interconnection and parallel operation with the grid (e.g., V2G AC systems). The open smart meter disconnect protects the grid from generator backfeed and allows the utility complete control of the disconnect and reconnect process. CESA supports the more detailed technical proposal by 33 North Energy, which is being submitted separately.

To further this proposal with a proof-of-concept, CESA recommends that the Commission support a one-year pilot, which may require up to \$1 million but could involve cost sharing by pilot participants or other agencies, such as the California Energy Commission (CEC). Alternatively, the Commission could direct the IOUs to establish the creation of a memorandum account to allow each of the utilities to recover the costs of funding this pilot in the next general rate case (transfer switches, engineering, administration). The actual funding amount can vary or change based on the scope of the pilot, but the more important point is that the amount of funding required to test this concept is not significant.

With Commission support of this idea, the pilot’s scope and objectives could be defined to demonstrate the proposal through simulated and/or actual PSPS events. With interim and final pilot results by Q3 2020 and Q2 2021, for example, the Commission can assess and seek potential solutions to implement this on wider scale, such as developing a standardized process for

customers to subscribe and apply to this type of temporary disconnection process for PSPS resiliency and operating procedures.

CESA believes that this pilot concept is readily implementable, considering these transfer switch devices are currently available and because CESA is aware of at least one automotive manufacturer, a CESA member, that is ready to provide pilot participants and V2G AC systems. Of course, the pilot could be expanded to cover a broader range of manufacturers and pilot participants, but we wish to only indicate the readiness of this pilot concept in being tested in the field. As such, CESA strongly recommends that the Commission consider and approve this pilot concept.

IV. A notification-only process for adding storage to an existing solar facility under certain conditions should be considered.

The Commission already adopted changes in Decision (D.) 19-03-013 on March 28, 2019 to the material modification process for existing facilities by use case based on proposals developed in Rule 21 Working Group 1. While not seeking to completely re-litigate issues already considered and adopted by the Commission, CESA believes that Use Case 6 where storage is added to an existing generating facility that does not have storage could be re-assessed with a more limited scope to support expedited deployment of storage retrofits to provide solar customers with resiliency capabilities.

Working Group 1 appeared to land on Process Option 4 as being the most appropriate for this use case, where an interconnection request would be required and the customer must wait for utility approval to turn on the system. However, for certain pre-approved configurations and capacities, CESA sees potential for storage retrofits to be considered under a notification-only approach. As we understand it, short circuit capability is based on the inverter nameplate rating, whereby AC-coupled storage retrofits would have material impacts that necessitate an interconnection request (Process Option 4) but DC-coupled storage retrofits share an inverter between the storage and solar resource such that concerns about short circuit duty contribution may not necessitate a full interconnection review but a notification-only process (Process Option 2). Similar to Use Case 3, a size threshold for storage retrofits could be set if there are concerns about inverter sizing leading to high levels of short circuit duty contribution. At the very least, some technical working group discussion on this idea is warranted for further exploration.

Conclusion

CESA appreciates the work of the Commission's staff and looks forward to working closely with the Commission and other stakeholders in supporting customer resiliency.

Sincerely,



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