

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's
Own Motion to Improve Distribution Level
Interconnection Rules and Regulations for Certain
Classes of Electric Generators and Electric Storage
Resources.

R.11-09-011
Filed September 22, 2011

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON ADMINISTRATIVE LAW JUDGE'S RULING SETTING
SCHEDULE FOR COMMENTS ON STAFF REPORTS AND
SCHEDULING PREHEARING CONFERENCE**

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Pursuant the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure, the California Energy Storage Alliance (“CESA”)¹ provides these comments on the *Administrative Law Judge’s Ruling Setting Schedule for Comments on Staff Reports and Setting Prehearing Conference*, issued July 29, 1014 (“ALJ’s Ruling”).

¹ 1 Energy Systems Inc. | A123 Energy Systems | AES Energy Storage | Alton Energy | American Vanadium | Aquion Energy | ARES North America | Beacon Power, LLC | Bosch Energy Storage Solutions Company LLC | Bright Energy Storage Technologies | Brookfield | CALMAC | Chargepoint | Clean Energy Systems | Coda Energy | Consolidated Edison Development, Inc. | Customized Energy Solutions | Demand Energy | DN Tanks | Duke Energy | Eagle Crest Energy Company | EaglePicher Technologies, LLC | East Penn Manufacturing Company | Ecoult | EDF Renewable Energy | Enersys | EnerVault Corporation | EV Grid | FAFCO Thermal Storage Systems | FIAMM Energy Storage Solutions | Flextronics | Foresight Renewable Solutions | GE Energy Storage | Green Charge Networks | Greensmith Energy | Gridscape Solutions | Gridtential Energy, Inc. | Halotechnics | Hitachi Chemical Co. | Hydrogenics | Ice Energy | Imergy Power Systems | ImMODO Energy Services Corporation | Sumitomo Electric Group | Invenergy LLC | K&L Gates | KYOCERA Solar, Inc. | LG Chem | LightSail Energy | LS Power Development, LLC | Mitsubishi International Corporation | NextEra Energy Resources | NRG Solar LLC | OCI Company | OutBack Power Technologies | Panasonic | Parker Hannifin Corporation | PDE Total Energy Solutions | Powertree Services Inc. | Primus Power Corporation | Recurrent Energy | Renewable Energy Systems Americas Inc. | Rosendin Electric | S&C Electric Company | Saft America Inc. | SEEO | Sharp Electronics Corporation | SolarCity | Sovereign Energy Storage LLC | STEM | Stoel Rives | SunPower | TAS Energy | Tri-Technic | UniEnergy Technologies, LLC | Wellhead Electric. The views expressed in this Prehearing Conference Statement are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. See, <http://storagealliance.org>.

I. INTRODUCTION.

CESA commends the Commission for spelling out a reasonable and expedited path to resolution of a number of interconnection-related issues that are impeding the progress of distributed generation (“DG”) in general and distribution grid-connected energy storage in particular. This process is timely, as examination of the two reports prepared by the Commission’s Energy Division Staff that are attached as Attachment A and Attachment B to the ALJ’s Ruling should dovetail well with two other critical regulatory policy making processes that are also presently underway in parallel with this proceeding, namely: (a) the California Independent System Operator’s (“CAISO’s) Energy Storage stakeholder process,² and (b) the Multi-agency Energy Storage Roadmap.³ CESA reserves comment on the Staff report on *Cost Certainty for the Interconnection Process* (Attachment A) at this time, but begins in these comments to lay out its position on the energy storage-related topics and issues discussed in the Issues, *Priorities and Recommendations Interconnection for Energy Storage* (Attachment B).

II. ATTACHMENT A - COST CERTAINTY FOR DER.

CESA does not provide substantive comments on Attachment A at this time, but will instead review the opening comments filed by other parties, and consider filing appropriate reply comments. Of potential area of potential concern for CESA is, for example, the following reference to energy storage pointed out by Commission staff:

“The IREC proposal also does not appear to make allowance for energy storage, which has very different impacts on the grid than generation. In addition, any fixed cost certainty regime based on a fixed per-kW risks shifting costs from the applicant to the ratepayers while shielding utilities.”
(p. 9)

² *Attachment A: Cost Certainty for the Interconnection Process*, Staff Proposal, July 18, 2014.

³ *Attachment B: Issues, Priorities and Recommendation for Energy Storage Interconnection*, Staff Proposal, July 18, 2014.

CESA reserves the right to respond to this and any comparable concepts filed by others in reply comments, if appropriate, and at the workshop contemplated by the ALJ's Ruling.⁴

III. ATTACHMENT B – ENERGY STORAGE INTERCONNECTION.

A. General Comments.

CESA strongly supports the Staff's statement on page 3 that:

“Topics such as the lack of an applicable tariff enabling behind the meter storage facilities to directly access a future CAISO market identification and valuation of storage services, and Rule 21 to WDAT interconnection request changeover issues should be taken into account and harmonized along the way.”⁵

B. Responses to Specific Questions.

1. Safety Planning.

- *Please provide comments on this proposed safety scheme meant to ensure safety for the people and environment of the State of California in a changing electrical environment. What elements should be part of the safety plan?*

CESA agrees with the Commission's assessment of the importance of having adequate safety schemes for energy storage systems, as with all energy infrastructures. CESA supports the Commission's proposed safety scheme, and recommends further engagement with stakeholders to develop appropriate safety standards for energy storage systems that are consistent with UL safety standards, existing interconnection requirements and parameters, and local permitting requirements.

⁴ As directed by the ALJ's Ruling, CESA has contacted the Energy Division's designated representative regarding scheduling of the workshop, and concurs with the assessment that the workshop should be scheduled after the Commission has the benefit of opening and reply comments and discussion at the scheduled Prehearing Conference.

⁵ CESA also wishes to clarify a potentially misleading reference to FERC-jurisdictional tariffs on page 3. There the CAISO tariff is incorrectly referred to as the Wholesale Distribution Access Tariff (“WDAT”). The CAISO's tariff is called the Generator Interconnection and Deliverability Allocation Procedures (“GIDAP”). Participating Transmission Owners all have FERC-jurisdictional tariffs called the Wholesale Distribution (“WDAT”) or Wholesale Distribution Tariff (“WDT”), depending on the utility.

2. Pre-Interconnection Consultation Process.

The Commission requests that the utilities develop an “Advanced Interconnection Consultation Process” to assist applicants to determine the necessary project details to be submitted to utilities in the course of the interconnection process. Two types of analysis are expected: (a) determination of the rules as they stand today, and (b) a brainstorming exercise that proposes better process possibilities for the future.”

- *In comments, please delineate the expected services to be provided by this consultation process, the timeframe and format for the delivery of results, and any other recommendations on this collaborative process.*

CESA supports the idea of an “Advanced Interconnection Consultation Process.” CESA particularly recommends that the consultation process allow for consideration of novel ways to mitigate system impacts of interconnecting resources, such as operational constraints and software based control solutions.

CESA recognizes that the services may vary substantially from one project to the next, and proposes that the utilities enter into an energy storage service agreement defining the scope of work and cost for the consultation process. The utilities and applicants should be required to agree on reasonable timelines and budgets to perform studies under such an agreement, with oversight provided by the Commission in cases of disagreement.

3. Define Storage Interconnection Terms and Concepts in the Definitions Section of Rule 21.

The utilities should develop a storage-specific vocabulary in order to properly communicate with the CPUC, CAISO, stakeholders, and applicants.

- *In comments, please list the terms or concepts that require definition to be added to the Rule 21 Definitions section. Please also attempt to provide a working definition of the term or concept.*

The Rule 21 tariff should more clearly define which functions of an energy storage system constitute firm, non-curtable load for study purposes, versus what supports a

generation function, and should receive a requisite level of service. CESA proposes the following construct for purposes of discussion:

1	Energy Storage charging during REM	Generation
2	Energy storage charging for non-REM wholesale market functions	Generation
3	Energy storage charging for distribution support activities	Generation
4	Curtailed or dispatchable parasitic demand (pre-chilling, other thermal management, round trip efficiency losses, etc.)	Generation*
5	Non-curtailed demand (on-site lighting, hardware power, etc.)	Load
* The proposed line of demarcation is demand that can be curtailed without affecting the energy storage system's ability to respond to a future market dispatch signal.		

4. Identify the Fast Track Threshold for Storage Projects and the Fast Track Study Screens for Storage Projects.

The eligibility threshold for generators is 3 MW in PG&E and SCE territory and 1.5 MW in SDG&E territory.

- *Please comment on the threshold parameters for a storage facility to access the Fast Track Process. Please also discuss the aspects of the storage facility that should be studied in a standardized way for Fast Track Study Screen development.*

CESA has no objection to the current 3 MW and 1.5 MW parameters.

- *Please comment on the special case of “non-exporting” storage: What parameters and requirements should be considered to determine whether or not a storage device is “non-exporting”? What type of proof should be available to prove “non-exporting”? Should non-exporting storage devices be allowed to bypass the interconnection process entirely? Should some other process be required? If so, what?*

Non-exporting resources should be contractually required to either: (a) only operate when the grid is down, or (b) be prohibited from exporting energy to the grid. Proof should only be required in the form of a certification of non-exporting status by the system owner, with the potential consequence of a service disconnection for violation of the non-exporting requirement.

CESA agrees that non-exporting energy storage devices should be exempt from the interconnection process and fees, because such devices should be functionally no different in terms of impact on the utility than any other type of customer load.

- *Please comment on the practicalities of reducing interconnection study times by standardizing study data and system characteristic into algorithms made accessible through a visual platform. Please describe the potential benefits and expected costs of instituting such technology advancement in utility interconnection departments.*

CESA takes no position on this issue at this time, but reserves the right to comment in the future as appropriate.

5. Update the Interconnection Agreement to Account for Storage Attributes.

No form currently describes the cost responsibility/use restriction balance potential or contains a way to contract utilizing use restrictions. This process requires discussion and needs to be captured in the Interconnection Agreement document.

- *Please comment on how might the utility and applicant best consult to determine the optimal storage facility settings and prevent an extended Interconnection Agreement negotiation phase when a variety of distribution grid upgrades and storage facility working parameters are discussed as possibilities.*

The most appropriate strategy is for energy storage interconnection studies to evaluate the facility as configured, but for utilities to provide an alternate configuration (*e.g.* either a reduction in the pMax, or operational constraints, that would reduce network upgrade costs to a pre-defined “acceptable” threshold amount). Customers should have the opportunity to select their preferred interconnection scenario once the first phase of an interconnection study is complete.

Alternatively, Customers should be afforded the option to select between interconnection cost minimization and performance optimization in their interconnection request, allowing

utilities the reasonable discretion during the study process to modify the system configuration if deemed necessary to minimize interconnection costs.

- *How best can the utility provide information to the applicant, and what type of information would be required at the conclusion of the study phase that would be most helpful to all parties in order to move smoothly into the Interconnection Agreement signing phase? Should study results reflect the possible high, mid and low level distribution upgrade costs and corresponding storage use restrictions or some other method?*

CESA strongly supports the concept of study results evaluating potential use case restrictions to minimize upgrade costs, but the interconnection customer should retain discretion as to whether to minimize costs or retain originally proposed performance characteristics.

- *What type of penalties might accrue for operations outside of agreed-to use restrictions?*

CESA believes penalties are a superior approach to worst case studies being conducted - provided safety is always the top priority in the interconnection process. Worst case assumptions without a path to mitigate impacts tend to lead to unnecessarily expensive network upgrades and ratepayer costs when many interconnection problems can be solved with agreed upon operational parameters.

6. Update the Interconnection Application to Accommodate Storage Attributes.

- *Please comment on the potential for utilizing the internet as the only submission channel for interconnection information, detail what information should be delivered to a utility on an interconnection request for a storage facility, provide any other recommendations for utilizing the interconnection application to maximizing the efficiency of the interconnection process. Should there be a single standard application?*

CESA supports any reasonable approach that can streamline the interconnection process, but defers to the utilities as to whether internet submissions would help streamline the interconnection process in a meaningful way.

7. Utility Consideration of Alternative Interconnection Metering and Protection Schemes.

- *Please discuss how an Applicant might trigger a “New Technology/ New Schema” Testing Process, what that process should be, the information that should be submitted to it, and how we might involve standard writing bodies to respond to changing needs in the energy industry. How can utility test labs be leveraged? Discuss how Applicants should present proof-of-concept evidence, including what type of evidence is necessary, when making a request that any party consider altering best practices.*

CESA recommends that a working group should evaluate this topic and provide recommendations to the Commission.

8. Electric Vehicle Interconnection Issues.

CESA recommends that the Commission require utilities to develop interconnection procedures enabling the study of fixed energy storage systems that are being deployed to manage the impacts of load from electric vehicle (“EV”) charging. For example, “trickle charging” protocols should be developed so that fixed energy storage can be combined with, and used to manage the demand impacts of, multi-unit EV charging sites. This could help eliminate or reduce the need for costly network upgrades and high demand charges, which would save costs to ratepayers and make EV charging more economical.

IV. CONCLUSION.

CESA appreciates the opportunity to submit these comments, and looks forward to actively working with the Commission and stakeholders in this proceeding.

Respectfully submitted,



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