BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.	Rulemaking 12-03-014 Filed March 12, 2012

REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON TRACK III RULES ISSUES

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.	Rulemaking 12-03-014 Filed March 22, 2012

REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON TRACK III RULES ISSUES

The California Energy Storage Alliance ("CESA")[1] hereby submits these reply comments in accordance with the direction provided in the, *Administrative Law Judge's Ruling Seeking Comments on Track III Rules Issues,* issued by Administrative Law Judge David M. Gamson on March 21, 2013 ("ALJ's Ruling").[2]

I. INTRODUCTION.

In Track II of this proceeding, CESA submitted a composite critique of what were then the most recent long-term requests for offers ("RFOs") for procurement of system resources issued by the investor owned utilities for consideration by the Commission as a "Model All-

[1] The California Energy Storage Alliance consists of A123 Systems, Alton Energy, AU Optronics, Beacon Power, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, DN Tanks, East Penn Manufacturing Co., Energy Cache, EnerVault, FAFCO Thermal Storage Systems, Flextronics, Foresight Renewable Systems, Greensmith Energy Management Systems, Growing Energy Labs, Gridtential Energy, Halotechnics, Hecate Energy LLC, Hydrogenics, Ice Energy, Innovation Core SEI, Invenergy, KYOCERA Solar, LG Chem, LightSail Energy, NextEra Energy Resources, Panasonic, Powertree, Primus Power, RedFlow Technologies, RES Americas, Saft America, Samsung SDI, Sharp Labs of America, Silent Power, SolarCity, Stem, Sovereign Energy Storage LLC, Sumitomo Corporation of America, TAS Energy, UniEnergy Technologies, and Xtreme Power. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. http://storagealliance.org.

[2] These reply comments are filed timely in accordance with direction provided by Administrative Law Judge Gamson's e-mail message addressed to the service list on March 28, 2013, granting a request to change the due date for filing Reply Comments to this date, May 10, 2013.

Source RFO." CESA's Comments urged the Commission to direct the utilities to use the concepts included in its Model All-Source RFOs as guidance to the utilities and potential bidders to allow energy storage resources to compete for procurement on a basis comparable with other resources to meet system need. CESA's Comments emphasized the importance of clearly directing the utilities to evaluate energy storage resources on a comparable basis, while at the same time taking full account of the unique attributes and advantages of energy storage.[3]

As discussed in CESA's opening comments in the present track III of this proceeding,[4] the Commission has essentially adopted the principals listed by CESA in its Track I decision, D.13-02-015, as they relate to RFOs in general.[5] In these reply comments CESA emphasizes that the same basic procurement philosophy of comparable treatment for energy storage in all resource procurement contexts should extend equally to procurement for upgrades to, additions to, and repowering of existing power plants. As a threshold matter, CESA joins with parties that encourage the Commission to distinguish as clearly as possible between the terms "upgrade" "addition" and "repower."

CESA takes issue with comments of parties that advocate for limitations on the kinds of power plant augmentation and enhancement that can be undertaken by existing plant operators and offered to utilities in response to utility RFOs. Limitations will inherently constrain asset improvements and related grid benefits; and even if potentially grid-maximizing assets bid into RFOs, procurement processes will place disproportionate value on some grid services, thereby undervaluing certain technologies in comparison to others. Ultimately, this will lead to a less-than-ideal grid composition with associated harm to grid performance and ratepayers. In order to

[3] *See, Comments of the California Energy Storage Alliance on Administrative Law Judge's Ruling Seeking Comment on Workshop Topics* filed October 9, 2012.

[4] *See, Comments of the California Energy Storage Alliance on Administrative Law Judge's Ruling Seeking Comment on Track III Rules Issues*, filed April 26, 2013.

[5] *Decision Authorizing Long-Term Procurement for Local Capacity Requirements*, issued February 13, 2013.

fully and fairly evaluate new assets' contributions to the grid, all provided services and asset characteristics should be accounted for in RFO processes. Specific requirements in utility RFOs should be governed by each utility's stated need. What is most important for the Commission to establish is a fair, open and transparent set of guidelines that will clearly allow potential bidders of energy storage to participate on a comparable basis to other resources.

II. THE COMMISSION SHOULD CLEARLY DEFINE THE TERMS "UPGRADE," "ADDITION" AND "REPOWER" AND HOW THE ADDITION OF NEW ENERGY STORAGE CAPABILITY WILL BE RECOGNIZED IN EACH OF THESE CATEGORIES.

Subject to the specific comments and recommendations below, CESA generally agrees with San Diego Gas & Electric Company ("SDG&E") that "The RFO application and templates do not require amendment, except to add clear definitions for the following terms: upgrade, repower, and energy storage. This would be a purely administrative change." (SDG&E Comments, p. 9). It is somewhat surprising to see sophisticated market participants profess to find these terms unclear,[6] but the mere fact that the point has been raised at all requires the Commission to provide the needed clarity for the benefit of utilities and bidders. One clear caveat to SDG&E's observation, however, is that the Commission should clarify that only the statutory definition of "energy storage" set forth in the California Public Utilities Code should be used in all contexts, including utility procurement.[7]

CESA recommends that the Commission should clarify definitions of "upgrade," "addition," and "repower" for the purposes of this proceeding. Several parties, including SDG&E, have already expressed the need to clarify definitions, and some have concerns regarding potentially overlapping categories. CESA takes no position on the final definitions

[6] *See, e.g., Comments of AES Southland,* filed April 26, 2013.

[7] Public Utilities Code Section 2835(a)(1).

themselves; however, CESA requests that each be properly differentiated with given applicability for conventional and storage assets properly defined. Regarding existing definitions, CESA has found the following:

- Currently, there is no documented, generally accepted definition of "addition."
- "Upgrade" has two primary definitions within California - by the California Energy Commission ("CEC") and the California Independent System Operator ("CAISO"), respectively:
    - The CEC defines "upgrade" as: "Replacement or addition of electrical equipment resulting in increased generation or transmission *capability*. [Emphasis added]."
    - The CAISO defines "upgrade" as: "The required *additions and modifications* to the California ISO Controlled Grid and the Distribution System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities [Emphasis added]."
- "Repower" is defined in the *Power Partners Resource Guide*[8] as: "The process of replacing older power stations with new ones that either have a greater nameplate capacity or more efficiency which results in a net increase in power generated."

Importantly, it appears that there is potential for redundancy between "addition" and "upgrade," because the CEC and CAISO definitions for upgrade specifically include "additions" of electrical equipment to the grid. This should be clarified in a way that clearly differentiates between the two categories. Differentiation should also focus on what characteristics are valued for new grid assets, including energy storage. This will be critical in the event that energy storage procurement goals are established pursuant to AB 2514 in the Energy Storage

[8] The electric power industry has partnered with the Department of Energy (DOE) to create "Power Partners" a joint government-industry initiative to reduce greenhouse gas emissions.

Rulemaking. In this respect, CESA recommends that the Commission recognize increased grid "capabilities" from new assets, as this term may fully encompass the multitude of grid services and increased system performance afforded by improvements in the electricity asset mix – and especially the addition of flexible assets such as energy storage.

As mentioned above, CESA is neutral on definitions themselves, so long as they can be clearly differentiated and allow for complete and accurate valuation of assets and related grid capability changes for new energy storage systems installed post January 2010, consistent with AB 2514. As an illustration, categories could be defined, and assets could be valued, accordingly:

- "Addition" would encompass the addition of new electricity assets of all types to the generation and T&D infrastructure systems. Increased generation or transmission capability from additions would receive appropriate value; so generation-sited energy storage, for example, would be recognized for the incremental peak output capability it affords and other grid services, as needed.
- "Upgrade" would specifically refer to the replacement of electricity assets (excluding replacing entire power stations, which is under "repower" below) "resulting in increased generation or transmission capability." The increase in capability from replaced assets to new assets would receive appropriate value. If energy storage was used to replace an existing electricity asset, then the new capability provided by that new energy storage asset should be recognized.
- "Repower" should keep the definition from *Power Partners Resource Guide,* with new "power stations" encompassing assets able to provide bulk power to the grid. Specifically, repowering would apply to the replacement of entire power stations or

other generation assets with new assets that "result in a net increase in power generated." If the new asset were energy storage and if it entirely replaced an existing power station or other generation asset then the full capability of that new energy storage asset should be recognized. If the new energy storage asset resulted in a 'net increase in power generated', then only the increase in peak output from the old power station to the new energy storage asset would receive "repower" value if it were provided by the storage asset. Other changes in capabilities – i.e. regulation capabilities – would likewise receive appropriate value.

This example has caveats. Removing "additions" from the "upgrade" category would clearly differentiate between the two; however, moving towards redefinition of "upgrade:" to exclude additions could be potentially problematic with regards to consistency between agencies and proceedings. The Commission would additionally need to clarify certain energy storage-specific asset recognition: for example, if a "power station" is replaced by new renewable generation with generation-sited storage, energy storage would have to be clarified as either an "addition" or as its appropriate share of "repower" from the power station replacement.

Regardless, the Commission should identify appropriate definitions for the three main categories that allow for clear distinctions between them. Definitions and related valuation should also allow for inter-technology comparison that fairly assesses and values grid impacts from new energy assets, including full and fair evaluation of energy storage assets.

III. THE COMMISSION SHOULD DISREGARD SUGGESTIONS THAT ENERGY STORAGE PROPOSALS MUST DELIVER INCREMENTAL CAPACITY OR LONGER POWER PLANT LIFE.

CESA is in complete agreement with AES Southland as to the way that energy storage should be evaluated in general:

> "With regard to storage, storage can provide for future capacity and flexibility needs in ways that complement gas-fired generation, reducing emissions and other environmental impacts and maximizing the utilization of the most efficient generation with the lowest environmental impacts. Energy storage can be instantly available with minimum generation constraints, can provide inexpensive peak energy, can lower system emissions, and is modular and scalable. Given these benefits, storage, including the addition of storage to existing generation facilities, should be considered as part of the solution to future capacity and flexibility needs. Like upgrades and repowers, however, storage additions should be evaluated pursuant to a general set of evaluation metrics that would allow the Commission and utilities to compare the benefits of storage additions to other solutions to energy and capacity needs." (AES Southland Comments, p. 4).

CESA also generally agrees with AES Southland's view regarding new additions to existing power plants:

> ". . . a generation project [should] not be permitted to bid into a new generation RFO if that generation appears on the California Energy Commission's current California Power Plants Database of existing, operating plants in California as of the date of the RFO, except to the extent that the repower or upgrade would provide significant incremental capacity to the California Independent System Operator balancing authority area, either by expanding the generation capacity at a generation facility, or by extending the useful life of a generation facility, as a result of significant capital investment." (AES Southland Comments, pp. 3-4).

The qualifier "significant," both in reference to incremental capacity additions and capital investment, may place unnecessary and unclear limitations on RFO eligibility. Instead of this qualification process, the Commission should simply clarify that upgrades or repowers that "provide . . . incremental capacity to the CAISO's balancing authority area, either by expanding the generation capacity at a generation facility, or by extending the useful life of a generation

facility" may be considered in RFOs for which such expansion or life extension provide desired system needs.

Another possibility to consider is that RFOs may generally seek system improvements beyond expanded capacity. For example, grid benefits ranging from reduced emissions to improved ramping/regulation speed may be given significant value within RFOs. Accordingly, RFOs seeking non-capacity benefits should absolutely be considered and undertaken if those RFOs will lead to maximized asset utilization and associated grid benefits. A generation facility upgrade or repower that addresses non-capacity benefits should likewise be eligible to bid into RFOs; and if that upgrade or repower is found to be a "best fit" for system needs, then the grid will benefit accordingly. To the extent that such needed capabilities are provided by energy storage, those capabilities should be recognized.

Similarly, CESA agrees with the Division of Ratepayer Advocates ("DRA") in general, but disagrees with unnecessary and undesirable artificial limits on what kind of energy storage proposals may be considered - particularly if they are based on outdated minimum criteria for new capacity:

> "Energy storage arising from new investment should be valued as a new resource so that it can be bid into a long-term RFO, whether it is located at an existing facility site, or elsewhere. It should be valued against other capacity offers depending on its ability to meet the key criteria for a capacity resource: generic, local, or (if adopted) flexible capacity. For generic or local reliability needs, the storage capacity should be sufficient to sustain output during at least one peak hour, if not more than one hour. There may be some storage resources that can provide services to address regulation or 10-minute spinning reserve requirements. Such storage resources might not have the sustained energy output needed to meet minimum criteria for generic, local or flexible capacity resource. Storage resources that cannot meet minimum capacity criteria should not be added as a capacity resource, as they do not provide what grid operators require from RA resources. Additional analysis and clear threshold criteria are required to appropriately gauge how storage resources can fit into the procurement alternatives [Footnotes deleted]." (DRA Comments, p. 8).

Energy storage resources should be fairly considered alongside all other resources in RFO processes, and should accordingly demonstrate ability to meet required performance aspects in specific RFOs. However, it is inappropriate to advocate for pre-established limits, especially unclear and unsubstantiated limits set to apply to all RFOs of certain categories, for those aspects in this proceeding. CESA generally agrees that "[a]dditional analysis and clear threshold criteria are required to appropriately gauge how energy storage resources can fit into the procurement alternatives," and even concedes that "[s]torage resources that cannot meet minimum… criteria should not be added as a… resource." However, analysis of how energy storage can meet threshold criteria of RFOs should be done accurately and fairly; and evaluations of proposed energy storage resources' ability to meet threshold criteria should be done on a project-by-project basis within RFO processes. Further, when energy storage is performing services comparable to resources on the loading order, it should be afforded the same "preferred" treatment in utility RFO processes. This will ensure that energy storage resources - and indeed all resources - are compared on equal footing throughout procurement processes.

IV. BIDDERS RESPONDING TO REQUESTS FOR OFFERS SHOULD HAVE THE FLEXIBILITY TO CHARACTERIZE THE PERFORMANCE PARAMETERS OF THEIR PROPOSALS AS THEY DEEM BEST SUITED TO THE NEEDS OF EACH UTILITY PROCUREMENT.

PG&E appears to support the view advocated for by AES Southland as to the characterization of a power plant enhancement being limited to the exact "footprint" of the initial operating parameters of comparable generation resource modifications:

> " . . . repowers that extend the useful life of a facility to match that of a new resource should remain eligible to compete in LTRFOs for new generation. Existing facilities, including upgrades to existing facilities, should only be allowed to compete in short-term or intermediate-term RFOs. This separation will allow utilities to meet the RFO needs in a cost-effective manner for customers without the risk of over-procurement. The same principle should apply to energy storage that is incorporated into repowers and upgrades of

> existing facilities. If the storage technology results in a facility with a remaining useful life equivalent to a new resource, it should be eligible to compete through an LTRFO." (PG&E Comments, p. 9).

In general, parameters for individual RFOs will filter out ineligible offers through the RFO process. If, for example, an LTRFO requires a functional asset lifetime of 20 years, that requirement will by definition limit the eligibility of proposals and number of eligible proposals accordingly. Bidders submitting proposals should be allowed to do so in a way that accurately characterizes their proposal in response to the RFO requirements; however, placing such limitations within this proceeding will create unnecessary barriers and may limit otherwise eligible (and potentially best-fit) projects from bidding into RFOs.

Yet PG&E does return to CESA's fundamental point that the specific terms of utility RFOs should provide performance specifications that are as clear as possible:

> "Once the parameters of a solicitation are established, PG&E's offer evaluation methodologies are capable of comparing all eligible offers, including those that have a storage component, with each other." (PG&E Comments, p. 11).

PG&E correctly points out that technology evaluation should be accurately comparable between technology classes providing similar services. CESA likewise endorses the development and use of evaluation methodologies that appropriately recognize, quantify, and incorporates relevant qualities of "all eligible offers, including those that have a storage component" throughout procurement processes. In the case of energy storage, evaluation methodologies that incorporate all the benefits provided by that energy storage asset must be considered. A framework for this methodology is being developed in the Energy Storage Rulemaking and can be utilized for this purpose going forward.

V. BIDDERS SHOULD HAVE THE FLEXIBILITY TO PROPOSE THAT THEIR OFFERINGS SHOULD BE EVALUATED AS EITHER INCREMENTAL OR INTEGRATED AS BEST SERVES THE INTERESTS OF EACH UTILITY PROCUREMENT.

CESA disagrees with the Independent Energy Producers Association ("IEP") position suggesting incremental cost as an exclusive bid valuation methodology:

> "If the proposal is to disaggregate the cost basis of unit bids (e.g., incremental costs associated with expansions versus the cost of the generating facility as an entire unit), that approach is wholly inappropriate in a competitive, market-based system and would signal a significant change in Commission procurement rules, practices, and outcomes. This proposal would require a much broader discussion than is afforded here." (IEP Comments, p. 4).

If an existing generating facility were to undergo an upgrade or an addition resulting in incremental capacity or other capabilities, then evaluation of the incremental cost to achieve these new capabilities is paramount. A key barrier to generation-sited energy storage being considered as an addition or upgrade to existing power plants lies with contractual inability for the power plant owner to be paid for that incremental capacity. Allowing cost/benefit disaggregation of new capacity upgrades or additions is critical to addressing this barrier.

On the other hand, CESA agrees with IEP that the Commission should encourage the kind of broad discussion that will be very helpful for all stakeholders.

SDG&E, in their comments, highlights the importance of aligning correct terminology with proposed operating performance parameters in suggesting that bids for capacity additions must be evaluated on an incremental basis if the capacity addition is incremental:

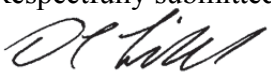
> "The existing and upgraded components of repowered facilities should be valued in a holistic fashion as one complete, integrated facility. In a case where the facility is already under contract with the IOU and the contract specifically addresses the facility's technical components, the repowered facility should be evaluated as new and the analysis should account for the benefits of the new resource net of any attribute(s) lost as a result of the repower. If a bid merely represents an upgrade to an existing project, the evaluation must recognize that only the upgrade or increased output may qualify as to meeting a new generation need, unless the existing facility was

assumed to be retired as part of the need determination. If not, the remaining portion of the plant may also have value to meet other needs such as meeting local or system resource adequacy and should be evaluated accordingly." (SDG&E Comments, pp. 8-9).

VI. CONCLUSION.

CESA appreciates this opportunity to provide these reply comments.

Respectfully submitted,



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