



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
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Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2019 and 2020 Compliance Years.

Rulemaking 17-09-020
(Filed September 28, 2017)

**COMMENTS OF THE LARGE-SCALE SOLAR ASSOCIATION ON
GENERATION RESOURCE ADEQUACY PROGRAM TRACK 3 PROPOSALS AND
ENERGY DIVISION EFFECTIVE LOAD CARRYING CAPABILITY PROPOSAL**

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COMMENTS OF THE LARGE-SCALE SOLAR ASSOCIATION ON GENERATION RESOURCE ADEQUACY PROGRAM TRACK 3 PROPOSALS AND ENERGY DIVISION EFFECTIVE LOAD CARRYING CAPABILITY PROPOSAL

I. Overview and Purpose

Pursuant to the Amended Scoping Memo and Ruling of Commissioner Randolph of January 29, 2019 in CPUC Resource Adequacy (RA) proceeding (R.17-09-020), and Administrative Law Judge Allen's Ruling on Effective Load Carrying Capability (ELCC) in R.17-09-029 dated February 13, 2019, the Large-scale Solar Association (LSA) respectfully submits these Comments on the Resource Adequacy Program Track 3 Proposals and Energy Division Effective Load Carrying Capability Proposal. LSA's comments focus on the RA value of grid-interconnected and distributed solar resources and their impacts on and contributions to the California electric grid resource adequacy, the need to refine the ELCC calculation for solar resources, and the need to develop RA values for hybrid solar-storage generating resources.

II. Background

These comments are in response to comments and proposals made throughout this RA proceeding regarding ELCC. Several parties addressed ELCC determination for solar generating resources in testimony and comments in RA Phase 2 in 2018. Subsequently, the Energy Division developed an ELCC proposal for wind, solar and storage resources in November 2018, which was presented at a Commission workshop on December 13, 2018. Based on participant feedback at the workshop, staff revised and re-issued the staff proposal on February 5, 2019. On February 12, 2019 ALJ Allen issue a ruling that Comments on the Energy Division ELCC proposal should be incorporated into the RA Track 3 comments, and parties submitted proposals for modification of the staff RA proposal on March 4, 2019.

III. ELCC for Grid-interconnected Solar

LSA supports the staff proposed methodology for determining the ELCC values for solar, wind and storage resources. The methodology, which calculates a monthly capacity contribution to system RA from grid-interconnected solar resources, appropriately identifies the contribution of these resources to grid reliability.

IV. ELCC For Behind the Meter Solar

In testimony and comments submitted in RA Phase 2, and in proposals submitted in Phase 3, several parties propose the RA need determination be modified to include all end-use consumption rather than metered load deliveries and that behind the meter solar photovoltaics (BTM PV) should have a Resource Adequacy (RA) capacity value as a supply resource. As PG&E explains in its Track 3 proposal¹,

PG&E encourages the Commission to treat BTM PV resources the same as in front of the meter resources, rather than load modifying resources, because the location of a resource vis-à-vis the customers meter does not change the impact of solar resources on system reliability. Second, with increasing adoption of BTM PV resources by end-use customers, PG&E believes that a change in the basis used for determining the system RA requirements for LSEs is warranted. Specifically, PG&E believes that the Commission should change the basis of the system RA requirements for LSEs from traditional metered load (i.e., the amount of energy being provided by the bulk energy system) to end-use consumption. This is because the wide-spread adoption of BTM resources has resulted in a distinction between metered load and the amount of energy consumption by end-use customers that creates significant problems for the RA program and the determination of the RA requirements.

LSA appreciates that the increasing penetration of distributed generation, specifically BTM PV, is changing the energy demand profile of load serving entities (LSEs) and the determination of RA requirements may need to be revised to consider energy end-use rather than LSE delivered energy. LSA offers no specific proposal on the methodology to accomplish this, but strongly recommends that the determination of RA requirements be bifurcated from the determination of supply resources that are eligible to provide the RA services. While the system may require additional RA from the grid to account for potentially higher load requirements currently being served by BTM resources, that does not mean these resources are capable of providing the RA services required.

BTM PV is a Load Modifier, Not a Supply Resource

In Phase 2 comments PG&E, SCE, and Middle River Power contend that BTM PV be should be considered a supply side resource and counted as capacity when determining the

¹Track 3 Proposals of Pacific Gas & Electric Company, March 4, 2019, p.2

ELCC from solar resources. The argument for considering BTM PV as a supply resources is best summarized by SCE, which contends “BTM solar has the same impact on RA as the impact of central station solar and increasing implementation of BTM solar contributes to the shift of the net load peak in the same way as central station solar.” This is fundamentally incorrect, both by definition and operation. In its Demand Response and Energy Efficiency Roadmap: Maximizing Preferred Resources guide², the CAISO discusses which resources constitute supply and which are load modifiers, explaining:

Supply-side resources are those energy supplies available to the ISO to balance net load. These resources can take different forms, ranging from conventional generators to demand response. Supply-side resources are used to directly balance load, manage congestion and satisfy reliability standards. Supply-side resources inject or curtail energy in specific locations, and can be modeled, optimized, and dispatched when and where needed by the ISO.

Load-modifiers are those resources or programs not seen or optimized by the ISO market, but they modify the fundamental system load shape, preferably in ways that harmonize with ISO grid operations.

These resources are by definition load modifiers, reducing or shifting the demand for grid-supplied power, and as such are properly considered as part of the load. Distribution-level generation and storage devices, in most case, have no visibility to grid managers, are not responsive to grid needs, and generally are not dispatchable or otherwise controllable. Considering devices as supply resources for RA accounting not only do nothing to improve reliability and would create a dangerous illusion that we have more functional RA to be relied on than exists on the system.

LSA strongly believes that for RA purposes, BTM PV should be treated similar to other on-site BTM supply resources, such as self-generation and BTM wind. These resources are not considered supply resources by the CPUC or the CAISO, rather are load modifiers. BTM PV resources are no different from these, other than the fact that there is a higher penetration of them on the system.

² Demand Response and Energy Efficiency Roadmap: Maximizing Preferred Resources, CAISO, December 2013. <https://www.caiso.com/documents/dr-e roadmap.pdf>

BTM PV Does Not Have Attributes to Qualify as RA Resource

BTM PV resources do not possess the characteristics to be RA resources. The CAISO's glossary defines resource adequacy as:

The program that ensures that adequate physical generating capacity dedicated to serving all load requirements is available to meet peak demand and planning and operating reserves, at or deliverable to locations and at times as may be necessary to ensure local area reliability and system reliability.³

BTM resources are widely distributed and are neither "at or deliverable to locations and at times as may be necessary to ensure local area reliability and system reliability." The system needs RA resources that are responsive to system requirements, and counting resources as RA that are incapable of responding to grid requirements will denigrate, not improve, reliability

V. Locational and Technology Difference for Determining ELCC from Wind and Solar Resources

In Phase Two comments and testimony, PG&E and SCE propose the ELCC calculation for wind and solar resources reflect the locational and technology differences among these resources, citing the need for greater accuracy in modeling these resources. LSA appreciates the desire to be more accurate, and we would look forward to working with the CAISO, CPUC and other parties to identify all of the technological differences that impact the ELCC determination. This should, in addition to location and technology, include but not be limited to vintage of generating unit, and in the case of PV the appropriate inverter loading ratio, as the output of a resource is not just a function of nameplate capacity, but also inverter loading.

VI. Develop RA Values for Hybrid Solar-Storage Resources

A new class of generating resources using hybrid solar-storage technology is emerging to be the next major energy supply resource in California. Of new projects submitted in to the CAISO interconnection queue in 2018 over one third of the total capacity was from hybrid solar-storage facilities.

Hybrid facilities are fundamentally different than exclusively solar or exclusively storage facilities, in that they have longer operating times than either facility individually and can

³ <http://www.caiso.com/Pages/glossary.aspx?SortField=Acronym&View={8034109d-e87a-4203-90dc-41ff59ca116e}&FilterField1=Letter&FilterValue1=R&SortDir=Asc&FilterField2=Acronym&FilterValue2=RA>

provide much more flexible operation than just energy provision. The current ELCC modeling does not capture these dynamics and should be modified to appropriately value this emerging class of technology.

VII. Conclusion

LSA appreciates the opportunity to offer these comments on Generation Resource Adequacy Track 3 Proposals and Energy Division Effective Load Carrying Capability Proposal.

Date: March 22, 2019

/s/ Tim Mason

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VERIFICATION

I, Tim Mason, am the Policy Director of the Large-scale Solar Association. I am authorized to make this Verification on its behalf. I declare that the statements in the foregoing copy of these Comments of the Large-scale Solar Association on Generation Resource Adequacy Track 3 Proposals and Energy Division Effective Load Carrying Capability Proposal are true of my own knowledge, except as to the matters, which are therein stated on information and belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on March 22, 2019 at Berkeley, California.

/s/ Tim Mason

Tim Mason
Policy Director
Large-scale Solar Association