

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

Order Instituting Rulemaking to Consider
Streamlining Interconnection of Distributed
Energy Resources and Improvements to
Rule 21.

Rulemaking 17-07-007
(Filed July 13, 2017)

**CLEAN COALITION RESPONSE
TO ADMINISTRATIVE LAW JUDGE'S RULING DIRECTING RESPONSES TO
QUESTIONS ON WORKING GROUP TWO REPORT**

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I. INTRODUCTION

The Clean Coalition submits these comments in response to the *Administrative Law Judge's Ruling Directing Responses To Questions On Working Group Two Report* ("Ruling"), dated December 7, 2018.

The Clean Coalition greatly appreciates both the work done by fellow members of the Working Group and the California Public Utilities Commission (Commission) staff on this topic to date and the opportunity to respond to the questions.

II. DESCRIPTION OF THE PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement and interconnection of distributed energy resources (DER)—such as local renewables, advanced inverters, demand response, and energy storage—and we establish market mechanisms that realize the full potential of integrating these solutions. The Clean Coalition also collaborates with utilities and municipalities to

create near-term deployment opportunities that prove the technical and financial viability of local renewables and other DER.

III. GENERAL COMMENTS

The Clean Coalition greatly appreciates the Commission's efforts to build upon the thoughtful prior contributions of staff and Parties in addressing the complex issues assigned to Working Group 2 and the subsequent Report. The OIR and proposed initial scoping for this proceeding appropriately recognizes the broad Distributed Energy Resources ("DER") Action Plan goals and, in particular, the need for streamlined interconnection processes identified both by parties in the prior proceeding (R. 11-09-011) and in the Commission's Guidance in the development and implementation of Distribution Resource Plans (DRP) proceeding (R.14-08-013).

Seven years ago, the Commission opened R. 11-09-011 on its own motion to improve distribution level interconnection rules and regulations and subsequently has been addressing Distribution Resources Planning in addition to Energy Storage, Net Energy Metering revisions, Multi-Use Applications, and smart inverter standards. Meanwhile, the landscape has changed dramatically as utility procurement of generation has shifted to Community Choice Aggregation and individual customer adoption, and technological changes have dramatically reduced costs of distributed generation, storage, and systems to manage these assets individually and in aggregation as both microgrids and grid resources.

The Clean Coalition advocated consistently for efficiencies in the interconnection processes, from publication of the first interconnection maps and web portals for electronic application submission, through Fast Track and Supplemental Review processes, Pre-Application Reports, Unit Cost Guides, and Distribution Resource Planning coordination, including Interconnection Capacity Assessment. Slow but significant and substantial progress has been made in both back-end and customer facing data access, coordination, and automation, reducing the time and associated costs of project planning and interconnection review. This progress should continue. While we believe that standardized flat fees would greatly streamline the lengthy cost

determination and allocation processes, we believe that each issue addressed in this proceeding offers opportunities for incremental improvement and/or resolution of specific issues.

A major goal of the Commission is to optimize grid resources, as is clearly described in the Commission's own DER Action Plan and in the Commission's Guidance on utility development of Distribution Resource Plans. A core factor of such optimization is integration of DER not only to directly meet energy needs but also to offer non-wires alternatives to mitigate grid infrastructure costs. This is a rapidly developing capability that relies upon DER operation as a complimentary alternative to grid upgrades, and is especially applicable to upgrades associated with the interconnection of new DER. Much of the focus of the working group is on efforts to take advantage of the capabilities of new DER to be integrated into the electrical system as an asset rather than a burden. Fundamentally this requires DER to perform as intended rather than to require grid upgrades to handle worst case operational scenarios.

Safety must be the first priority in operation and regulation, followed closely by reliability, however it is recognized that ratepayer cost is necessarily a critical consideration. While we aim to minimize outages, we accept them as necessary to mitigate both safety and cost concerns.

The Clean Coalition has consistently argued that additional costs must be warranted by the benefits and avoided risks. This applies at the macro level where ratepayers as a whole bear the cost burden, and at the micro level where individual customers bear the cost, and each of these apply to interconnection. The goal is to gain efficiencies in the processes and physical investment. In this light, each proposal should be evaluated with consideration of the relative costs. This includes investment costs to the individual customer or ratepayers, against actual statistical risk of future direct costs as well as impact on broader goals adopted by California.

This is clearly illustrated an Energy Commission grant project managed by the Clean Coalition to demonstrate the ability to utilize energy storage facilities to increase grid hosting capacity to support higher penetration of rooftop solar photovoltaic ("PV")

generation as an alternative to grid upgrade investment (EPC-16-073, GFO-16-309). These commercial scale batteries (750 kW) are capable of fully mitigating any negative grid impact of at least as much added PV while offsetting their own costs through provision of other services, potentially doubling the ability to accommodate PV at no cost to either the customer or ratepayers. However, under current standards, because the batteries are physically capable of exporting energy at the same time as the PV (i.e. they could be programmed to operate this way), they are assumed for reliability review to operate in the worst possible export profile. As a result, the utility considers the battery to decrease rather than increase hosting capacity and has required grid upgrades to be installed for interconnection of the battery despite the operational purpose of the battery being to avoid precisely these upgrades.

There are clearly legitimate questions and concerns regarding how to make use of the capabilities offered by DER and optimize their deployment and integration into the electric grid, but we must emphasize that the question is “how to”, not “whether to”. The onus is on the grid operators to answer this question - under the oversight of the Commission and with support from Parties - in order to maximize net benefits for ratepayers.

Issues significantly impacting interconnection will continue to arise as unprecedented quantities and uses of DER proliferate to meet the evolving needs of individual customers, grid operators, wholesale markets, and broad ratepayer interests. The Commission clearly recognized this in opening this proceeding. The Clean Coalition strongly supports the attention given to these issues.

IV. RESPONSES TO SPECIFIC QUESTIONS

All Issues:

Question 2. For any proposals that developers support, and one or more utilities oppose based on a perceived reliability concern, should the Commission require the utilities to pilot the proposal in an isolated geographic area?

The short answer is yes, but with at least two caveats:

- There must be a valid assessment of reliability concern with statistical significance greater than the benefits, or else net benefits for ratepayers will be lost or delayed.
- Where the projected value of reduced reliability is greater than the anticipated benefits, there must be overriding rationale for pursuing a pilot.

As elsewhere, a critical consideration here is in the assessment of both risk and value. In areas of uncertainty, widely divergent assessments may be made by different parties. The Commission should rely first upon adopted standards and metrics for risk and value assessment, and then consider supplementing these with the most recent additional refinements and information. In particular the Commission should consider the degree and probability of reliability impacts, recognizing that any DER will frequently have both positive and negative potential impacts under varying conditions that reduce the net impact. Likewise, estimation of the potential benefits should include all relevant benefit categories, including meeting broad goals of the State. Lastly, while reasonable efforts to estimate benefits are essential, precision is often impractical or impossible, and judgment is appropriately exercised in giving priority to new pilots or studies that both require investment of resources and potentially delay associated benefits for years.

In summary, it is the responsibility of utilities to both exercise caution and to demonstrate that the degree of caution is actually warranted, and it is the responsibility of proponents to clearly demonstrate net value and appropriate allocation of costs.

Issue 8

Question 7.

b. What perspective should the Commission use in the cost and benefit analysis (i.e., which costs and benefits should be considered by the Commission in determining whether proposed activities are just and reasonable and in ratepayers' best interests)?

c. Who should perform an analysis of costs and benefits?

Please see General Comments above where we address these questions in context.

Question 10. If Proposal 8.d is adopted, how should the utilities manage the monthly ICA update process?

Proposal 8.d does not require any change in the management of the monthly ICA update process. Each month the ICA is updated to reflect any changes that have occurred since the prior update, including changes in grid infrastructure and additions, modifications, or withdrawal of applications. The ICA reflects the application queue, which is based upon the date applications are received. The ICA reflects the status of applications as of the scheduled data collection date. Proposal 8.d does not envision any delay in the monthly ICA schedule; any subsequent changes will be reflected in the next ICA results.

Issue 8.m

Question 15. Under Screen M.d. on page 68 of the October Report, would a buffer set at a certain level on the ICA- Operational Flexibility (OF) curve be preferable to using 100 percent of the lowest ICA-OF value? If yes, what level of buffer should be used in the following revised language: "Is the Photo Voltaic (PV) Interconnection Request real power production based on PV Watts or equivalent greater than [XX] percent of the ICA-OF value in any hour?"?

Yes, it is preferable but not optimal, as described in Option B. The ICA methodology already utilizes conservative values. It is appropriate to review performance based on the coincident hourly profile rather than only the lowest value, as failure to do so unnecessarily foregoes the opportunity to utilize existing grid capacity or triggers unwarranted upgrades. However, if an additional buffer were to be applied, it should not be applied to the lowest hour(s) as this could result in an even more conservative and limiting value. Therefore, if a buffer were applied, we recommend the following language “Is the Photo Voltaic (PV) Interconnection Request real power production based on PV Watts or equivalent greater than [XX]% of the ICA-OF value in any hour, or 100% of the lowest value in the ICA-OF 576 profile, whichever is greater?”

Issue 9

Question 19

- o *What is the recommended buffer between the published maximum ICA- Static Grid and the corresponding output in the Limited Generation Profile? Provide justification for your response.*

The operational requirements for a limited generation profile should be consistent with Screen M.d. review against ICA 576 hour profile as proposed in Issue 8 under either Option A or B, whichever is adopted, as this establishes the appropriate buffer where applicable.

- o *What customers would you foresee using this option, and do all project sizes and asset types need this option?*

As higher penetration levels are reached, this option may be useful for all types and classes of applicants. It will be relevant to applicants who face constraints when seeking to install the most cost effectively sized facilities at their site either when the upgrade alternative delays commencement of operation or where they bear cost responsibility for such upgrades. Where ICA values exceed the project size, operational constraints are not necessary, however with the continued growth in DER penetration and projected rapid growth in energy storage at all customer levels, operational constraints may be widely applicable. As discussed earlier, battery storage can be operated to maximize benefits to both customers and grid operations, and these operational profiles typically align with grid constraints, but could not be accommodated without upgrades unless those operational constraints are agreed and established.

- o *If an upgrade is avoided due to an operational constraint, but the next customer elects to upgrade, does the operational constraint remain?*

It depends. Because the constraint is reflected in the Interconnection Agreement and subsequent utility calculations, specific action would be necessary to remove the operational constraint - the applicant may submit a request to modify the Agreement.

At this time that would require a new Interconnection Request for the change in operating profile, which should pass Fast Track Initial Review. A simplified low cost modification request option would be preferable. Ideally this could potentially be incorporated into the Interconnection Agreement as requiring the operational constraint contingent upon future resolution due to changes in grid characteristics, however queue priority should be maintained.

Question 24: Should the Commission track costs that result when systems interconnect up to the defined hosting capacity limit, load subsequently disappears, and mitigations are therefore required later?

This is not a new situation, and while data has value, it is not at all clear that this has been a significant issue attributable to DER. If utilities have indications of significant incidents of

mitigations triggered by load reductions that are not already covered by departing load charges, then it would be appropriate to determine whether these have given rise to significant ratepayer impacts. The Commission should establish a definition of significance, and we suggest that 0.01% (1/10,000th) of average ratepayer bills may be a threshold to consider impacts to be de minimis.

It is worth noting that DER interconnections, other than those under NEM tariffs below 1 MW, already bear cost responsibility for local CASIO transmission load reductions and any associated upgrades required to maintain Deliverability contracts for existing large generation facilities.

Issue 10

Question 26:

As noted in the Report, Clean Coalition offers qualified support for the proposed timelines. The issues raised are appropriate and proposed solutions are aimed correctly but warrant some modification in line with IOU feedback, which should be taken into account as consistent best practices are implemented. It is important to establish reasonable target timelines and track compliance while allowing for extenuating circumstances - no penalties have been proposed.

V. CONCLUSION

We appreciate the Commission's attention and parties diligent work in addressing the issues associated with interconnection in and offer these responses to further those ends.

Respectfully submitted,



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