

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.

R.17-07-007

GREEN POWER INSTITUTE & CLEAN COALITION COMMENTS ON RULE 21
PROGRAM EVALUATION DATA DISPLAY

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GREEN POWER INSTITUTE & CLEAN COALITION COMMENTS ON RULE 21 PROGRAM EVALUATION DATA DISPLAY

The Green Power Institute and Clean Coalition (GPI/CC) respectfully submit these informal comments on the Navigant and Energy Division proposed program evaluation interconnection data collection and display tasks (Task 5).

The Green Power Institute (GPI) is the renewable energy program of the Pacific Institute, a non-profit environmental and social advocacy group. Under the direction of Dr. Gregory Morris, the Green Power Institute performs research and provides advocacy on behalf of renewable energy systems and the contribution they make to reducing the environmental impacts of fossil-based energy systems. The Green Power Institute is located in Berkeley, California.

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.

I. Summary

GPI/CC strongly support the Commission's efforts to collect and make available information necessary to effectively monitor, evaluate, and further improve the efficiency and predictability of the interconnection process in California – and to display these data effectively on an ongoing basis in order to inform stakeholders and policymakers alike about the state's progress on interconnection.

GPI/CC are pleased to see this interconnection program review, and the "interconnection reporting" Task 5 that is the subject of these comments, taking place because both organizations have pushed for enhanced interconnection data collection for many years. We have long advocated for a data-focused policy improvement process in which obtaining historical interconnection data is generally the first step in major policy reform. Resolution of issues

brought forward in Rule 21 proceedings at the Commission over the years have been repeatedly hampered by a lack of statistical data upon which to objectively identify issues and evaluate proposals.

Our expectation is that a comprehensive data collection and website display tool(s) will provide excellent data to inform policymakers, developers and the public for years to come.

The following is a summary of recommendations:

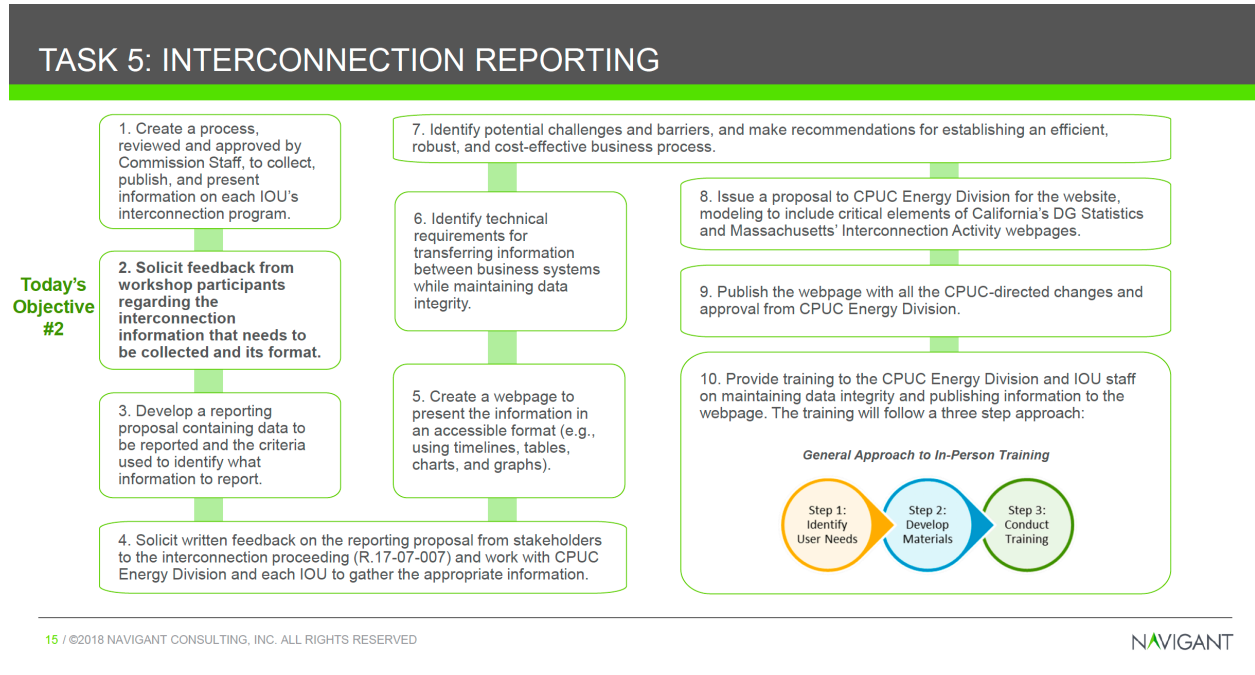
- The first step in Task 5 (creating an interconnection reporting website) is to “Create a process, reviewed and approved by Commission Staff, to collect, publish, and present information on each IOU’s interconnection program.” Achieving this step will require that stakeholders and Navigant define the appropriate data set. As with our comments on the Rule 21 program review, we strongly recommend that WDAT/WDT data be included in the ongoing data collection requirements and displayed on the website alongside Rule 21 data (but separable, as a user interface option, for more granular program diagnostics)
- WDAT/WDT data should be included in Task 5 because the stated purpose of this aspect of the program review (collection and display of interconnection data) is to give a good picture of the overall interconnection effort by each utility and to identify areas for improvement. Since Rule 21 is used predominantly for behind the meter (whether NEM or not) and WDAT/WDT is used predominantly for front-of-meter projects, including only Rule 21 data as a diagnostic for the health of each IOU’s interconnection programs will give only a partial and inaccurate picture. This is especially true due to the shifting wholesale markets leading to project developers needing to switch between the two tariffs, depending on what procurement programs are available.
- In point of fact, if only Rule 21 data is used for this interconnection data and display task, the end result will be almost identical to the existing California DG statistics website – obviating any need for the present work by Navigant.
- GPI/CC also recommend due attention be paid to automation of data collection and integration with the data display website. Automation has been a focus in the current Rule 21 reform process and was addressed in some detail in Working Group 2. Automation of data collection by each IOU and automated integration of that data with

the website to be run by Energy Division will dramatically reduce the labor required to keep this tool up to date. Setting goals for automated data collection will also helpfully inform IT planning as programs and systems are updated.

II. Discussion

The below comments address Navigant’s and ED’s request for informal comments on interconnection reporting and data display issues.

Navigant’s presentation included the following summary of this part of the work plan, labeled “Task 5: Interconnection Reporting” (slide 15):



The first step in Task 5 is to “Create a process, reviewed and approved by Commission Staff, to collect, publish, and present information on each IOU’s interconnection program.” Achieving this step will require that stakeholders and Navigant define the appropriate data set. As with our comments on the Rule 21 program review we strongly recommend that WDAT/WDT data be included in the ongoing data collection requirements and displayed on the website alongside Rule 21 data (but separable, as a user interface option, for more granular program diagnostics)

WDAT/WDT data should be included in Task 5 because the stated purpose of this aspect of the program review (collection and display of interconnection data) is to give a good picture of the overall interconnection effort by each utility and to identify areas for improvement, and all projects are on the same grid, mutually impact each other, and are managed by the same utility interconnection teams. Since Rule 21 is used predominantly for behind the meter (whether NEM or not) and WDAT/WDT is used predominantly for front-of-meter projects, including only Rule 21 data as a diagnostic for the health of each IOU's interconnection programs will give only a partial and inaccurate picture.

In point of fact, if only Rule 21 data is used for this interconnection data and display task, the end result will be all but identical to the existing California DG statistics website – obviating any need for the present work by Navigant.

a. Defining the dataset

In light of the above considerations, GPI/CC recommend that the data collection and data display tasks include all Distributed Generation projects that are 20 MW or less and are connected to the distribution grid, whether interconnecting under Rule 21 or WDAT/WDT. As we described in our July 10 informal comments, the program review will not uncover or address many key interconnection problem areas that still exist if it remains confined only to Rule 21.

Most parties will agree that the behind-the-meter (BTM) below 30 kW market segment (which receives expedited review) has very few problems any more – and we applaud the utilities for major improvements in this market segment. However, significant problems continue in the following areas:

- Larger BTM, whether net-metered or not, at 100 kW and above
- Front-of-meter projects, which are typically also 100 kW and above, selling power wholesale to the incumbent utility under Rule 21 or to a different Load Serving Entity such as the rapidly growing Community Choice Aggregation (CCA) market, necessitating application through WDAT/WDT.
- Energy storage projects seeking less than maximum possible export

Generation and storage facilities interconnect through the largely harmonized Rule 21 and WDAT tariffs often interchangeably, at the same locations, utilizing the same utility staff, processes, and business practices, and in a single combined study queue. Projects can and do regularly transfer between the two tariffs during the interconnection review and study periods prior to concluding an Interconnection Agreement. The choice of tariff is also frequently driven by fluctuating market factors (mainly procurement programs) unrelated to the utility interconnection process. As a result, issues identified in projects applying under either tariff will likely apply to both. However, in any given period projects experiencing issues may be largely or exclusively concentrated in one tariff, sometimes because of small differences between the tariffs.

Likewise, because projects in either tariff share the same queue process and utility resources for review and construction, the number of applications under either tariff will directly impact the review process of Rule 21 applicants in the interconnection queue, both in terms of electrical interdependencies in the study process itself and staff resources to complete the studies and construction of grid facilities. It will not be possible to understand delays in queued Rule 21 projects without a clear assessment of the context of the full queue of projects. Similarly, if market factors have temporarily shifted projects from Rule 21 to WDAT, and these projects are experiencing interconnection issues, this will be strongly indicative of the same issues arising in both tariffs. Identification of issues and development of improvements will typically affect projects regardless of which tariff they choose, and it is strongly within the interest of the Commission to support an efficient process for all projects.

GPI/CC's focus in work on interconnection policy is to achieve the largest benefit for the most MW of projects, but generally confined to projects 20 MW and less (what we call "community-scale"), which are capable of interconnecting to the distribution system. GPI is focused on this community-scale market segment for the reasons set forth in GPI's 2019 report, *A Cinderella Story: Assessing the State of California's "Community-Scale" Renewable Energy Market*,¹ including primarily: 1) there is a growing trend toward counties in California disallowing new large-scale solar and wind projects, due to growing public backlash about the size and impacts of

¹ Online at:

<https://www.dropbox.com/s/7x3plfygzp0ya48/A%20modern%20Cinderella%20story%20v1.2%20PUBLIC.pdf?dl=0>

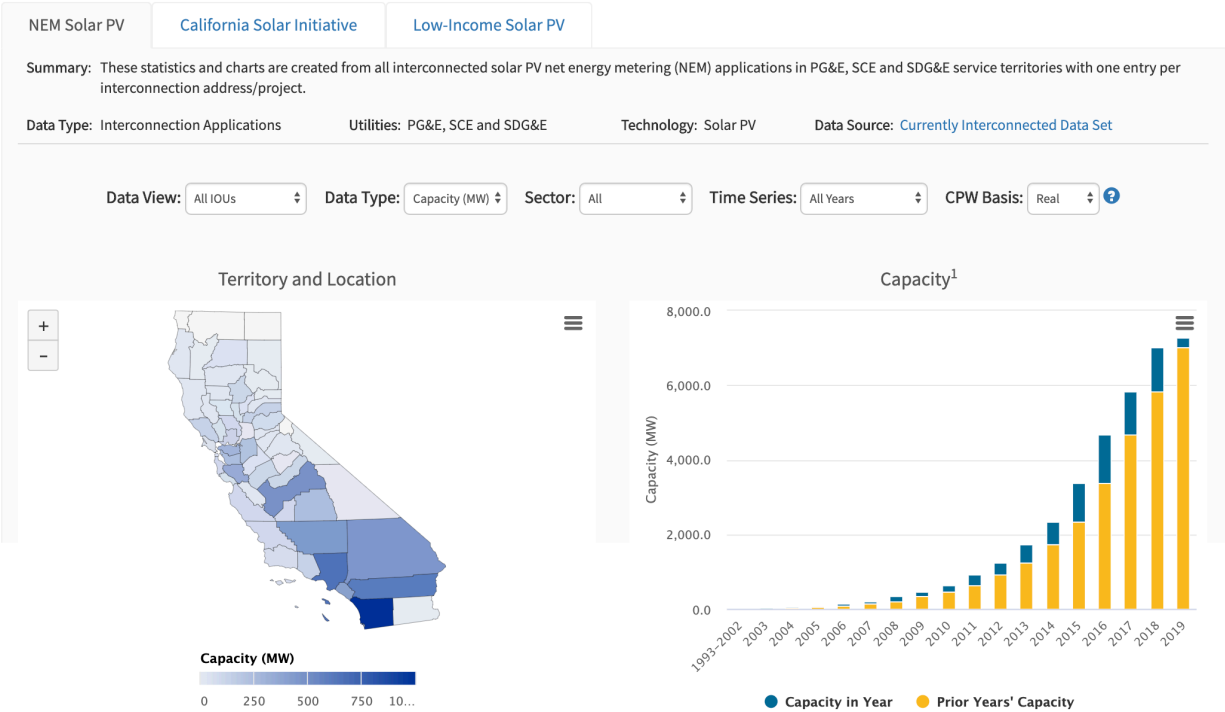
large-scale solar and wind; 2) the cost benefits of large-scale renewables are generally enjoyed as well by community-scale projects; 3) there are in many cases ratepayer cost savings from community-scale projects due to reduced transmission costs, which aren't always included in cost comparisons between the largest projects and community-scale projects; 4) local capacity and resilience benefits; and 5) the lower environmental impacts of community-scale renewables which are commonly sited on dual-use or otherwise previously-disturbed lands which have more manageable impacts than large-scale solar projects that can take up five or more square miles of open space with a single project.

In sum, we again urge the Commission and Navigant to focus not just on DG interconnecting under Rule 21, but also to include WDAT/WDT projects 20 MW and less in terms of data display.

b. Dataset display interface should follow generally same form as DG Statistics website

The California DG website statistic and charts [interface](#) is a good model for the current effort. A modified version of the site's display options could achieve the stated goals for Task 5. Here is a screenshot of the DG website interface:

Statistics and Charts



We recommend the following Data View options to be included for Navigant's new website:

- Same as in DG website

For Data Type, we recommend the following:

- Rule 21, 30 kW and below
- Rule 21, 30 to 100 kW
- Rule 21, 100 to 500 kW
- Rule 21, 500 to 1,000 kW
- Rule 21, 1,000 to 5,000 kW
- Rule 21, 5,000 kW and above
- WDAT/WDT, 100 to 500 kW
- WDAT/WDT, 500 to 1,000 kW
- WDAT/WDT, 1,000 to 5,000 kW
- WDAT/WDT, 5,000 kW and above
- Solar
- Wind
- Geothermal
- Hydro
- Biomass
- Energy storage

- Other technologies

We recommend a Technology Type menu as well as the Data Type menu, which will allow users to display different size ranges for each technology type (the above list of technology types will return all interconnection requests for each technology, whereas the below list of technology types will be able to be selected for each size and tariff category in the previous menu, providing more options for analyzing the interconnection process):

- Solar
- Wind
- Geothermal
- Hydro
- Biomass
- Energy storage
- Other technologies

For Sector we recommend:

- Residential
- Non-residential
- Front-of-meter

For Time Series we recommend the same as in the DG Stats.

Where cost per watt is published, we recommend that display options reflect the same six size groupings recommended above, because a simple average for everything >10kW (all non-residential) is not very useful. However, data should be aggregated both to maintain customer confidentiality and minimum statistical sample size of at least 10.

We also recommend consideration of an additional menu option that allows displaying or sorting interconnection data with greater locational granularity or category, such as by each city, distribution substation, or circuit. This would help align the historic and trend data published here with the ICA, LNBA, and GNA maps as well as the published Interconnection Queue date. This would also assist state and local agencies to understand the distribution of DER within their boundaries.

c. Automation tools should be fully considered for data collection and website integration

GPI/CC also recommend that due attention is paid to automation of data collection and integration with the data display website. Automation has been a focus in the current Rule 21 reform process and was addressed in some detail in Working Group 2. Automation of data collection by each IOU and automated integration of that data with the website to be run by

Energy Division will dramatically reduce the labor required to keep this tool up to date. Setting goals for automated data collection will also helpfully inform IT planning as programs and systems are updated.

More specifically, Navigant states the following as step 5 in this Task (slide 15): “Identify technical requirements for transferring information between business systems while maintaining data integrity.” The “technical requirements” in this context should probably be mostly automation requirements, substantially reducing the workload for IOUs, ED staff and Navigant once they are established.

As recent discussions in the current Rule 21 proceeding, during Working Group 2 and in particular in Working Group 3, have made clear – the IOUs are doing much on the automation front already in terms of interconnection process improvements.