

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

Order Instituting Rulemaking to Modernize  
the Electric Grid for a High Distributed  
Energy Resources Future

Rulemaking R.21-06-017

**INFORMAL COMMENTS OF THE GREEN POWER INSTITUTE  
ON GRIDWORKS' DSO WHITE PAPER**

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## **INFORMAL COMMENTS OF THE GREEN POWER INSTITUTE ON GRIDWORKS' DSO WHITE PAPER**

Please find herein informal comments from the Green Power Institute on the Gridworks' white paper on possible Distribution System Operator models for California.

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. GPI is located in Berkeley, California.

### **I. General Comments**

#### **a. Interconnection procedures should be discussed in the White Paper**

The White Paper is fairly comprehensive on many aspects of possible DSO models. Administration of interconnection procedures should, however, be included and delineated in any possible DSO model. CAISO and other TSOs generally administer all interconnection procedures specific to their grid, including intake of applications, studies, and coordinating building of required upgrades. In the current utility d-grid interconnection procedures, utilities conduct these activities for distribution-connected projects, from which difficulties have arisen in various ways.

One possible advantage of a new DSO model would be third-party administration of interconnection procedures, including studies and building of upgrades. This would necessarily need to be closely coordinated with each utility because utilities will retain ownership and, in general, liability for, the distribution grid. These issues will need to be fleshed out during the course of this proceeding but in the near-term GPI suggests that the White Paper be revised to include various possible interconnection administration options for each type of DSO option.

#### **b. More focus should be placed on energy justice and democratization of energy**

GPI supports GRID's comments at the June 1 2022 joint CEC/CPUC DER workshop about the need to do more to ensure energy justice and democratization of the energy system. Each DSO model will entail different options, but the White Paper should be revised to include further discussion of these important issues, and the degree to which each option will allow for improved energy justice and democratization of energy through, e.g., residential solar and community microgrids.

## **II. Maximizing the societal and rate value from DERs.**

We recommend additional analysis in the white paper and this proceeding investigating how different DSO models will influence California's pathway to 100% renewables and the consequent human health, ecosystem quality, social justice and environmental justice impacts of different DSO models at the state level.

As an example of the magnitude of these impacts, a recent study found that particulate matter emissions from burning fossil fuels were causing 355,000 premature deaths in the U.S. per year (<https://www.sciencedirect.com/science/article/pii/S0013935121000487>). We suggest looking into, as one possibility for such detailed modeling, the TotalView Energy Platform ([www.quantum-ec.com](http://www.quantum-ec.com)) for this analysis. The work being done by consultant Kevala in this proceeding is the natural home for this kind of additional technical analysis, but the white paper should mention the need for this kind of analysis in relation to decisions about different DSO options.

We also support Climate Center's recommendation to model the ability of DSO models to meet local needs and compare the costs/benefits in varying local communities that are representative of the range of communities in CA.

## **III. Comments on questions in Section 2**

- a. What about the DSO definitions provided in Section 2 is most relevant for California?**

The DSO definition should include reference to the level of coordination between distribution, transmission, and generation planners, as well as engagement with local communities. As such, we recommend the following modified definition:

DSO – Distribution system operator; this term refers to an expanded technical capability of a current distribution network services provider to identify and communicate network constraints, **with varying levels of coordination between load, generation, and distribution and transmission planning. DSOs may also include public outreach and equity elements.**

#### **IV. Comments on questions in Section 3**

- a. How would the four-step Grid Architecture process summarized here serve California’s evaluation of DSO options? Are there alternative approaches to consider?**

GPI suggests that the four-step Grid Architecture process outlined in Section 3 is applicable to the DSO model selection process in California. We would add, however, the following steps:

- Gather inputs from communities and increase community voices and participation in the process (adopting another Climate Center recommendation)
- Perform techno-economic modeling (e.g. TotalView) as well as environmental and health impact assessment modeling of the impacts that the different DSO models could have on the grid.

#### **V. Comments on questions in Section 4**

- a. What additional information do parties need to define, understand and evaluate DSO models?**

We recommend additional criteria for DSO evaluation, including how different DSO models compare in their ability to, among other things:

- Interconnection improvements
- Plan and operate a high DER grid

- Unlock economic opportunities for DERs to provide grid services
- Reasonable limits on market power
- Reduce ratepayer costs
- Increase equity and energy justice
- Improve grid resiliency
- Meet state policy objectives on DERs, climate and renewables

We also recommend including an assessment of human health and environmental impacts that would result from how different DSO models would lead to different energy pathways in meeting California's 100% renewable energy goal.

## **VI. Comments on questions in Section 5**

### **a. What best practices for DSO definition and evaluation may be inferred from these comparable initiatives?**

GPI would like to highlight that both Australia and the UK chose coordinated wholesale and distribution markets as well as consolidated owning and operating models. We suggest further investigating why these countries selected this architecture and how the benefits of a coordinated market and consolidated operation and ownership models could be better than the alternatives.

## **VII. Comments on questions from Section 6**

### **a. What about the Gridworks' proposal motivates you? What concerns you?**

We appreciate that gridworks is incorporating the four-step Grid Architecture methodology as well as analyzing the DSO models that other jurisdictions have chosen.

We are concerned about the following areas:

- Lack of discussion of the administration of interconnection procedures in different DSO models

- Lack of techno-economic as well as health and environmental modeling relating to the impacts of DSO alternatives on California's energy pathway to 100% renewable energy
- Lack of specific options described for engagement with communities and local experts, under each DSO option

**b. What changes or alternatives would better meet California's needs?**

GPI recommends adding the following to remedy the abovementioned issues:

- Delineation of potential interconnection procedures administration in different DSO models
- Techno-economic as well as health and environmental modeling relating to the impacts of DSO model alternatives on California's pathway to 100% renewable energy
- Ability to engage with communities and local experts, affect energy justice and democratization of energy, under each DSO option

Dated June 3, 2022