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**CEC IEPR Interconnection Distribution Grid Workshop\_GRID  
Alternatives**

*Additional submitted attachment is included below.*



31 May 2023

## **GRID Comments on the 2023 Integrated Energy Policy Report**

Dear Commissioners,

GRID was honored to provide opening remarks to the *2023 Integrated Energy Policy Report (IERP) Commissioner Workshop on Clean Energy Interconnection - Electric Distribution Grid* on 9 May 2023. As stated in our opening remarks, GRID appreciates the inter-agency coordination<sup>1</sup> and the Investor-Owned-Utilities (IOUs), whose engineering staff and linespersons work every day, rain or shine, to ensure a reliable distribution grid is safely capable of serving ratepayers with increasing amounts of renewable energy each year. GRID recognizes we can do good work because of others' good work.

To meet SB 100, California needs to 1) add historic amounts of supply-side generation, 2) encourage unprecedented demand-side DER adoption and efficient use of load-shifting technologies, and 3) create a regulatory framework to efficiently and fairly pursue both requirements simultaneously. This would be a difficult task in and of itself, but it is substantially more difficult when there is disparity in the capacity of the distribution system to enable a positive customer experience based on location and/or income. Unsurprisingly, Kevala's Electrification Impact Study (EIS) Part I has corroborated a major pain point that has quickly catapulted to the front of the electrification barriers line - a growing backlog of interconnection requests and/or deferred maintenance upgrades at the distribution system level that will increasingly prevent entire neighborhoods from being able to electrify their households, properties, and mobility. This presents an untenable scenario most likely addressed through a performance-based regulation<sup>2</sup> structure which updates the regulatory compact to adapt to a high-DER environment.

GRID provides comments to this rulemaking to ensure systemic infrastructure issues are addressed and good and necessary work can continue for the economic benefit of all Californians.

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<sup>1</sup> California Public Utilities Commission, Presentation: Introduction & Context, Distribution Grid Interconnection Workshop Overview, Slide 4

<sup>2</sup> Incentivizing Improved Interconnection and Use of Distributed Resources Hawaii's Experience, Slide 5

## Planning for Electrification

Regulating the future requires an honest assessment of historical issues. For multiple decades to today, Distribution Planning Processes (DPPs) were primarily designed to meet new service (load) requirements as cities and commercial development predictably expanded. This data is collected via Rule 15 (distribution line extensions) and Rule 16 (service extensions). From the perspective of the relevant IOUs, and the CPUC, Rule 15 and Rule 16 tariffs provide trackable new business development data because distribution infrastructure underpinned the constant growth of local economic development at the municipal level and of commercial/industrial sectors. Until recently, this growth served end-use customers based on calculated maximum load and capacity reserves to accommodate continued growth. GRID offers this overly simplistic view of how DPPs were developed because the process needs to fundamentally change to achieve multiple societal outcomes, including the quickest method to reduce GHGs.

Statewide decarbonization goals, trackable by Rule 29 (EV infrastructure load) and Rule 21 (behind-the-meter generation), have added new dimensions that system planners need to harness and manage: **relying on individual households actively making informed decisions** about how they source, utilize, and interact with energy to meet their daily household and transportation power needs. DPPs can no longer count on end-use customers remaining passive ratepayers, when increasingly, they are financially incented (or punished) to actively or automatically shift usage times, self-consume, and/or export generation.

GRID provides multiple recommendations to ensure fair processes are mandated and proper oversight, transparency, and performance-based incentives are available. Indeed, the 2022 IEPR projects the fastest load growth in SCE territory in multiple decades (~8%)<sup>3</sup> and process corrections are critical to implement immediately to avoid repeating past mistakes.

GRID organizes our comments based on the following focus areas that SMUD's distribution team reports using for electrification planning.<sup>4</sup>

### **1. Forecasting and DER Impact - Avoid Overreliance on Models for Distribution Capacity Planning that Disinvests in Low-income and Disadvantaged Communities**

GRID cautions against overly relying on historical Rule 15 and Rule 16 data when developing distribution system upgrade plans because the condition (available capacity) of all feeders is not starting in the same place. On a going-forward basis, there needs to be an intentional focus and sustained commitment to ensuring all feeder lines can meet the energy needs from the

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<sup>3</sup> SCE's Distribution Generation Interconnection and Load Energization Processes, Slide 2

<sup>4</sup> SMUD System Planning, Distribution Planning Process, Slide 8

perspective that millions of single-family and multifamily households and buildings will be mostly electric by 2035.<sup>5</sup>

Working backwards from having 100% of feeders capable of serving building and transportation electrification needs by 2035 provides a useful method to analyze which feeders are most in need of upgrading. On this point, it helps to think of professional sports drafts, where last year's last place team receives the right to the first best player (a worst-to-first mandate). The purpose is to inject fairness into a system.

Given there are limited engineering staff, and too many circuits in need of upgrades, GRID recommends specific prioritization be given to zip-codes with the worst current state (e.g., age, available capacity) of distribution infrastructure. One metric to consider is for DPPs and the IEPR to prioritize the worst-performing circuits as measured by the *System Average Interruption Duration Index (SAIDI)* and the *System Average Interruption Frequency Index (SAIFI)* and upgrade the feeders serving low-income communities with the highest SAIFI and SAIFI. This appears non-controversial and just.

GRID also provides an example of what not to do. If an IOU identifies that Feeder-X currently serves 5% of households with EVs, and this circuit will need an upgrade in two-years based on forecasting that 20% of households on Feeder-X are likely to adopt EVs within the next five years but Feeder-Y doesn't need an upgrade for 10 years because only 1% of households on that feeder currently have an EV, the DPP essentially constructed a barrier instead of removing one, with likely, disproportionate impacts on historically-underserved demographics, perpetuating systemic inequities despite seemingly objective data and a sound business case.

To illustrate how inequity is built into the grid, if utility planners referenced the zip codes of the household addresses that participated in the Clean Vehicle Rebate Project, and decisions to upgrade feeders were made with that information in mind, then the IOU would have upgraded neighborhood distribution equipment based on a program that was found to disproportionately benefit wealthier households.<sup>6</sup> Based on the theory that this has been occurring for decades (subtle entitlement of the status quo), a high-DER future still offers the best chance to correct course.

Additionally, GRID recommends anytime low-income communities are served by congested circuits, those areas receive intentional and tailored energy education and comprehensive whole home electrification programming, primarily through CBOs, mission-based service

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<sup>5</sup> Executive Order N-79-20 provides a critical guidepost to ensure all homes and business can use a bi-directional L2 EVSE

<sup>6</sup> <https://journals.plos.org/climate/article?id=10.1371/journal.pclm.0000183#sec016>

organizations, and innovative utility and industry partnered programming (e.g., virtual power plants).

## 2. Interconnection Process - Prioritized by Needs and Performance Criteria

To date, recommendations to require interconnection requests to jump ahead in the queue based on a conditional or needs-based approach (income or CalEnviroScreen scores) are met with objections. A frequently heard critique is that a first-come-first-served interconnection queue is fairer than a system because it is likely there are also vulnerable ratepayers on most circuits. While this can be true, a more accurate reason to avoid interconnection preferences is likely because there is a correlation with insufficient available capacity on those circuits and speeding up the time required to interconnect is impossible because of limited resources. Moving forward, there are only two options available to resolve the known issue: **require** or **incentivize** system upgrades based on an objective set of metrics instead of opaque forecasting.

Here are a few examples of what Performance Based Regulation (PBR) could incentivize:

- *Expedited processing of interconnection requests for BTM solar+storage systems or Microgrid Incentive Program projects if those projects can provide resiliency for low-income customers subject to urban heat island impacts*
- *Expedited processing of interconnection requests for BTM solar+storage systems or microgrids on circuits with high SAIFI or SAIDI scores*
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- *Expedited processing of interconnection requests for affordable new multifamily construction in Disadvantaged and Vulnerable Communities (DVCs)<sup>7</sup>*
- *Prioritize feeder upgrades on circuits where affordable multifamily housing tenants will charge EVs*
- *Prioritize feeder upgrades on circuits with the oldest or worst maintained existing infrastructure*

If incentives cannot be relied on, then IOUs should be required to create a dedicated interconnection team that only manages feeder upgrades for DVCs. This team should be resourced appropriately. In short, the IEPR should aim to meet demand expectations that support a safe, reliable, affordable, environmentally sound, *and equitable* distribution system.

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<sup>7</sup> <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/climate-change>

### **3. Make Key Investments Ahead of Demand**

Kevala noted that “[d]istribution grid planning that incorporates DERs throughout the process instead of at the end may help to identify and mitigate planning risks.”<sup>8</sup> Doing this “may enable California to capture the uncertainty of both supply and demand in order to plan the grid infrastructure and DERs to meet distribution capacity expansion, reliability, and equity needs.”<sup>9</sup>

In theory, the greater the proportion of total onsite demand that is met with self-consumed onsite generation and energy-efficiency, the fewer capacity upgrades will be necessary to handle peak and net peak demand if customers’ appropriately load shift. The issue is that the current Distribution Investment Deferral Framework (DIDF) has not successfully solicited many non-wires alternatives and future annual EV-induced demand may outpace self-consumption and load shifting on many circuits. As such, GRID recommends that key investments be made ahead of demand on the currently worst performing circuits, especially when those circuits are serving low-income and disadvantaged communities.

Kevala also recommended that the EIS Phase 2 analyze specific case studies to “better understand the uncertainty inherent in distribution planning and proactively mitigate impacts and implement risk management strategies that maximize the value of DER and load and DER

management strategies in distribution planning.”<sup>10</sup> To do this, Kevala recommends “identifying disadvantaged community areas with the most urgent need of load mitigations and proposing potential least-cost, best-fit solutions to understand how upgrade costs and different mitigation strategies would affect electricity burden and other energy justice metrics for different electrification scenarios.”<sup>11</sup>

Phase I of the EIS is useful and necessary and many of the report’s findings are relevant to an optimal IDER. However, GRID also cautions for the CEC and CPUC not to wait until the EIS Phase II findings are published because the meantime could continue widening available distribution infrastructure gaps instead of moving to close them.

### **4. Ensure Robust Community Feedback, Outreach, and Education**

GRID appreciates Commissioner Reynolds asking the IOUs a question seeking to learn if the IOUs treat all zip-codes equally when developing their distribution upgrade plans. Specifically,

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<sup>8</sup> Kevala EIS Part 1, p.124.

<sup>9</sup> Kevala EIS Part 1, p.124.

<sup>10</sup> Kevala, p.130.

<sup>11</sup> Kevala, p.131.

Commission Reynolds asked if the IOUs “perform any analysis of the difference between disadvantaged communities and communities that don’t qualify as disadvantaged in terms of having their [distribution] capacity needs being met”<sup>12</sup> and “which communities, in particular, are facing recurring longer than typical timelines to meet new loads.”<sup>13</sup>

A representative from SDG&E responded that “...we treat all of our grid needs equally”<sup>14</sup> and that there is no differentiation between communities. SDG&E based their response by describing that when a customer comes to them to convey local community needs, “that is an input into our process and *then* we apply our planning and methodology...”<sup>15</sup> (emphasis added)

The response did not fully address the Commissioner’s concern for two reasons: First, we do not know if there are recurring issues embedded within the IOU-led planning and methodology. Second, Community feedback is an input which may not result in an appropriate output (i.e.,

equal distribution capacity access) for all communities. On the first point, GRID recommends that the IDER and Grid Needs Assessment (GNA) evaluate which circuits may have recurring issues, which can be analyzed by age, condition, available capacity, etc.

On the second point, there is additional relevant information that the IOUs are already required to establish regarding robust community feedback, outreach, and education, as per D.20-08-024 (*Decision on Energy Utility Climate Change Vulnerability Assessments and Climate Adaptation in Disadvantaged Communities (Phase 1, Topics 4 and 5)*). Specifically, D.20-08-024 requires “specific methods to address and engage disadvantaged and vulnerable communities within the context of the IOU’s climate adaptation efforts **must be established.**”<sup>16</sup> (emphasis added). Moreover, the same Decision requires that the “IOUs must ensure climate change planning and adaptation is prioritized at the most senior executive and board levels.”<sup>17</sup>

These requirements, among others, provide a strong foundation to help with the development of just DPPs. The IOUs are already required to analyze which IOU-owned assets are at a heightened risk of failure due to wildfires, extreme heat, extreme storms, drought and sea level rise<sup>18</sup> and consult with local leaders and community-based organizations (CBOs) to identify which community assets are important to the communities themselves. This data is useful and should be an input in future DPPs, producing better outputs.

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<sup>12</sup> Zoom Recording, AM Session - Commissioner Workshop on Clean Energy Interconnection - Electric Distribution Grid, Meeting minute, 1:44:22 - 1:44:37

<sup>13</sup> *Id.*, 1:44:01 - 1:44:19

<sup>14</sup> *Id.*, 1:45:49 - 1:45:52

<sup>15</sup> *Id.*, 1:45:30 - 1:45:40

<sup>16</sup> D.20-08-024, Finding of Fact #15, p.104.

<sup>17</sup> D.20-08-024, p.107.

<sup>18</sup> D.20-08-024, p.2.



## 5. Seize Workforce Development Opportunities Related to Infrastructure, Renewable Energy, and Electrification

There are over twelve million owner-occupied and renter-occupied households in California<sup>19</sup> that are all expected to decarbonize their major appliances and transportation. There are tens of millions of water heaters, furnaces, and other types of central heating, ventilation, and cooling (HVAC) systems running on natural gas, propane, wood and other polluting sources currently. Behind-the-Meter solar and solar-paired-storage is projected to increase from roughly 14 GW in 2023 to over 30 GW by 2035.<sup>20</sup> The number of LD BEV is expected to increase from over one million in 2023 to over 14 million by 2035.<sup>21</sup> It will collectively take a massive workforce to

replace main service panels, plumb heat pump water heaters, wire EVSE, and install solar-paired-storage systems, all of which will add electrical demand and/or unleash maximum demand-side flexibility.

This endeavor lives up to the lofty goals of the American Jobs Plan<sup>22</sup> but it is not guaranteed to be a success for everyone, including, and specifically, for Justice 40 communities, without workforce development programs being sufficiently resourced. The scale of the opportunity is unprecedented, and GRID is eager and humbled to install, administer, educate and train, and expand workforce development opportunities for the communities that cannot afford to not benefit from historic state and federal funding alongside partners at the CEC, CPUC, and the IOUs.

### Conclusion

GRID Alternatives thanks the Commission(s) for the opportunity to offer comments, and looks forward to exploring opportunities to partner with relevant state agencies to expand access to distributed energy resources for all Californians.

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<sup>19</sup> <https://www.energy.gov/scep/slsc/lead-tool>

<sup>20</sup> Presentation - Introduction & Context - Distribution Grid Interconnection Workshop Overview, Slide 7

<sup>21</sup> *Id.*

<sup>22</sup> The White House, Fact Sheet: The American Jobs Plan, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/>