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June 11, 2018

Via Email

California Customer Choice
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Email: customerchoice@cpuc.ca.gov

Re: CUE Comments on the Draft Green Book

Dear California Customer Choice Team:

These comments are submitted on behalf of the Coalition of California Utility Employees. The unions that are part of CUE represent approximately 34,000 people who work for investor-owned and publicly-owned utilities in California, and for contractors who perform work for utilities and project developers.

I. INTRODUCTION

CUE was formed in 1994, shortly after the Commission issued its Blue Book which paved the way for deregulation. The Blue Book was long on promises of the wonders of a competitive future, but short on analysis of the forces it would unleash. In CUE's first comments on the Blue Book, we said that deregulating the electric industry would lead to price spikes and blackouts. No other commenter agreed. Given the disaster of the Energy Crisis, we take little comfort in having been right.

In sharp contrast to the Blue Book, the draft Green Book is thoughtful and thorough. The authors have correctly identified California's core policy objectives – affordability, decarbonization and reliability – along with many of the current policies that threaten those objectives. We wholeheartedly agree that continuing the current policies without a plan is very dangerous.

In our comments, we discuss the key threats to California's core policy objectives, including some that were omitted from the Green Book. We also discuss the solutions. We need to move quickly to implement solutions before the dangerous

aspects of current policy become so embedded that course corrections are no longer possible. Fortunately, solutions are at hand.

II. THREATS FROM CURRENT POLICIES

A. Threats to IOU Grid Functions

The Green Book provides a good description of the role of the IOUs. It says in part,

> **Utility Creditworthiness.** The CPUC implements decarbonization and environmental policies through IOU programs. These programs have taken the form of DER procurement, electric vehicles, energy efficiency, rooftop solar, storage mandates and other mechanisms. The current utility financing model for these investments may destabilize as there are fewer customers to absorb costs.
>
> **Grid Investment and Reliability.** The IOUs are also responsible for grid safety and resilience, during normal operations and catastrophic events. As operators of the transmission and distribution grid, the IOUs will retain this obligation and liability. With greater choices (CCAs, NEM, Direct Access, and rooftop solar) and disaggregation of supply, current safety controls and protocols become more difficult to fund and to coordinate in times of crisis.
>
> Fair and equitable compensation to the IOUs for competitive neutrality on the grid to accommodate the growth of CCAs, distributed energy resources, self-generation and more customer-controlled purchasing is the central challenge in the regulatory adaptation necessary to accommodate that growth. Indeed, with the recent wildfires in the state, the utilities are working to "harden the grid" to provide a safer system and are expending greater capital in a climate of financial instability. The questions of what is required, how much it costs and who is responsible to pay the IOUs for grid operation are currently before the Commission.[1]

Each of these IOU grid functions is currently threatened.

[1] Green Book, pp. 19-20.

1. Strict liability

The Green Book is correct that utility creditworthiness is a foundational requirement for California to implement many of its important decarbonization and environmental policies. It is also foundational to ensure that the grid is maintained so that it can provide safe and reliable service. Without creditworthy utilities that employ an adequately sized and trained workforce, none of our core policy objectives are achievable.

However, while the Green Book mentions the recent wildfires, it does not mention the elephant in the room that threatens affordability, decarbonization and reliability. The doctrine of inverse condemnation with strict liability for damages regardless of fault threatens the financial viability of the IOUs. It is not a sustainable model. Except for certain economically motivated groups, no knowledgeable person seriously believes otherwise.

One could dispute whether this threat is within the scope of the Green Book. We believe it is. The current risk is largely driven by our choices: land use choices that put more people at the high risk urban-rural boundaries with long commutes, electric supply choices that have for a long time fueled climate change by emitting large quantities of GHGs, transportation energy choices that continue to fuel climate change, and regulatory choices that have not prioritized hardening the electric system. In any event, the threat from wildfires to utility creditworthiness along with the enormous climate effects from emissions of carbon dioxide and black carbon make the issue too big to omit.

We request that the final Green Book acknowledge the threat of wildfire to utility creditworthiness and thus to all of the functions upon which our policies depend.

2. NEM Subsidy

The Green Book correctly identifies the NEM subsidy as a threat to grid investment and reliability. NEM was originally intended as a subsidy to jump start rooftop solar. Participating customers were given large economic incentives to install rooftop solar because rooftop solar was not otherwise economically justified.

In 2013, the Legislature enacted AB 327 because it recognized that the existing NEM subsidy was no longer justified nor fair to non-participating

customers. Non-solar customers pay the full retail electric rate for solar energy exported to the grid (approximately $0.20/kwh) while the identical solar energy can be obtained from utility scale solar projects for less than 1/6 the price ($0.03/kwh). While the rooftop solar advocates point to saved transmission costs and a few other items, they cannot close a $0.17/kwh gap. It costs society about six times more to obtain electricity from rooftop solar than it does from utility scale solar.

NEM also results in unfair cost shifting from wealthier, participating customers to non-participating customers, including low-income customers. Rooftop solar owners not only sell power into the grid at the full retail rate (even though the value of renewable generation is far less), but they also avoid paying their share of the cost of distribution and transmission service. The retail value assigned to renewable generation is entirely misaligned with the actual value of incremental renewable generation from a NEM generator. This creates a revenue shortfall that, in turn, leads to extra costs imposed on non-participating customers. Historically, NEM participants have been wealthier than the average residential customer in California. While NEM customers realize the benefits of rooftop solar in the form of reduced bills, non-participating customers, many of whom are lower-income and can't buy rooftop solar or don't have the credit rating to lease it, experience an increase in rates as the utilities must recover the costs of grid service.

Thus, AB 327 required the Commission to revise the NEM subsidy to equalize the benefits and costs to all customers. Unfortunately, despite the legislative mandate and a statutory deadline, the Commission did not equalize the benefits and costs. Instead, in Decision 16-01-044, the Commission punted, claiming it will revisit the issue in 2019.

The Green Book recognizes the NEM problem. If a subset of customers are not paying their share of the costs of the distribution system, those costs must be paid by other customers. This makes electricity less affordable or the utility must forgo the investments needed for a safe and reliable grid. Either way, one of the three important principles must be sacrificed: affordability or safety.

Eliminating the NEM subsidy is now even more urgent. On May 9, 2018, the California Energy Commission revised state building standards to require most new houses and multi-unit dwellings to install rooftop solar. It estimates that this will result in 260 MW of additional rooftop solar per year. Subsidies for rooftop solar are not justified when installation is mandatory.

3. Fragmented responsibility – DERs

The Green Book aptly points out that the IOUs must "continue to provide the fundamental backbone services of electric delivery to customers along with ensuring the safety and reliability of that delivery," and that this role of the IOU is "essential."[2] This sentiment, however, is not reflected in recent Commission action that threatens the IOUs' essential role. In the Integrated Distributed Energy Resources and Distribution Resources Plans proceedings, the Commission has plowed ahead with taking essential grid operations from the hands of the regulated utilities that are bound by an obligation to serve and placing it in the hands of unregulated third parties that have no obligation to serve. CUE has explained many times to the Commission that this is a profoundly misguided effort that threatens both electric reliability and safety. The Commission has refused to listen.

The problem is not increasing DERs or having regulated utilities deploy DERs in place of more traditional resources. Rather, the flaw is putting distribution reliability and safety in the hands of unregulated third parties who, unlike regulated utilities, have no obligation to serve. History tells us that placing distribution operations in the hands of an entity other than a regulated utility will lead to disastrous results. The Commission must acknowledge the dangers of this path.

When California deregulated the electric generation sector by forcing the utilities to divest much of their regulated generation fleet to unregulated third parties, the safety and reliability of the grid was severely damaged. California suffered rolling blackouts and costs beyond anyone's imagination. Consumers lost more than $40 billion in what was likely the most expensive public policy mistake in California history. Shockingly, the Commission is now deregulating the distribution sector.

One thing was made very clear during the Energy Crisis – corporations act in their own economic self-interest without regard to the societal impacts. A corporation will only act in a safe and reliable manner if doing so maximizes profit. Absent a countervailing obligation to serve, which third parties lack, those third parties will sacrifice safety and reliability to greater profit.

[2] Green Book, p. 25.

It is likely that on any particular distribution circuit, the utility would rely on a single provider to, for example, provide enough storage to avoid a transformer overload on a hot summer afternoon. But when the storage is worth more if used to maximize return under the TOU tariff or the CAISO wholesale market, that provider must be expected to withhold services called for by the contract and instead use that storage to maximize profits under one of the other options. Exactly that incentive could exist on a hot summer afternoon with critical peak pricing under the tariff or high CAISO wholesale prices making it highly lucrative to time discharge from the storage device according to that tariff or CAISO market rather than the contract. The result is an overloaded transformer that fails to operate, blacking out customers. This is exactly the behavior we saw during the Energy Crisis when generators withheld their services from the day-ahead market because the day-of market was more lucrative. As more and more generators engaged in this behavior, prices in the day-of market skyrocketed. Sometimes the generation services withheld were so large that rolling blackouts ensued.

Of course, when that DER provider sees in advance that its economic incentive to use the storage service onsite to avoid very high TOU rates on a hot summer afternoon is greater than its incentive to provide the storage service to the distribution grid, the company may decide that it should avoid forcing the blackout and "suggest" that the utility increase the compensation for providing the distribution service. Because the distribution utility will not have invested in the infrastructure to avoid the blackout and will instead by dependent on the unregulated third party, it must either pay up or blackout customers. This is exactly the behavior we saw during the Energy Crisis when generators continually demanded higher and higher prices to keep the lights on.

The Commission has adopted rules of priority for DERs to attempt to avoid the problem of multiple markets leading to sacrificing reliability, but those rules are just another cost of doing business for the profit motivated company. Trusting distribution reliability to unregulated companies is a fool's errand.

It is also quite possible that a third party DER provider will involuntarily breach the contract. The DER industry continues to be highly volatile and there is no telling which fledgling companies may go bankrupt in one, three or five years from now. In addition, it take just one large storm, wildfire or earthquake to disrupt service. Third party DER providers have no obligation to maintain a skilled workforce large enough to respond to the emergency conditions California faces on a semi-regular basis, and will experience more frequently in the future. Without the

ready workforce, extended blackouts would become the norm during and after emergencies.

The Commission is well aware of California's recent and disastrous history with relying on unregulated third parties to provide critical reliability services. Likewise, the Commission is familiar with the principle that corporations act in their economic self-interest and, in fact, remains inherently suspicious of the utilities based upon this premise. Nevertheless, the Commission has failed to connect these realities in order to reach the obvious conclusion that unregulated third parties cannot be relied upon to perform electric distribution services for the very same reason.

The Green Book does not address this issue head on, but its analysis "relies on the basic proposition that the utilities will continue to provide the fundamental backbone services of the electric delivery to customers along with ensuring the safety and reliability of that delivery."[3] In other words, the IOU role is essential to safe and reliable service. We agree and request that the final Green Book recognize the real and significant danger from allowing unregulated third parties to step into the essential role of the IOUs.

B. Energy reliability

The Green Book correctly states that "customer choice does ***not*** include the choice of poles and wires distributing electricity. … CCAs and BTM customers are interconnected to the grid for some or all of their supply."[4] Put another way, there is one network, including CCAs. What the Green Book does not (but should) say is that all customers (bundled and CCA customers) must pay for the network, but are not. Instead, bundled customers are footing most of the bill.

1. Legacy costs

To jump start California's greenhouse gas emissions' reductions and clean energy goals, the IOUs were mandated to procure a significant amount of renewable energy, which was expensive at the time. Since then, the cost of renewable products has dropped significantly, in large part because of the IOUs' early procurement. As a result, IOUs have a substantial amount of above-market portfolio costs. In

[3] Green Book, p. 25.
[4] *Id*.

addition, many of the customers for whom the IOUs procured the renewable energy have since departed IOU bundled service for CCAs or direct access providers. Departing load in the IOUs' service territories has increased from seven percent in 2008 to 25 percent in 2017, and the Commission's Energy Division projects up to 85 percent load departure by the mid 2020s.

The law mandates that these departures not result in cost increases for bundled customers and that departing customers not pay for costs that were not incurred on their behalf.[5] The choice made by one customer cannot impose costs on another. The Commission established the Power Charge Indifference Methodology more than ten years ago to fairly assign costs and benefits to customers departing bundled service of the IOUs. But that was long before the substantial drop in renewable energy costs and the tremendous growth of CCAs. In fact, at that time, there were no CCAs at all. The California electricity market landscape is very different now, and the PCIA does not (and cannot) equitably assign costs between bundled and departing customers as required by the law.

Specifically, the PCIA can no longer preserve statutorily mandated customer indifference because it (1) values certain resource attributes using administratively-set benchmarks which are above actual prices that can be obtained in the market, and (2) has no true-up to actual costs and actual revenues achieved in the market. The result is that, as load departs, costs shift to bundled customers. Importantly, the costs largely shift to bundled customers in counties that fall below the state-wide median income level. In other words, the current PCIA will exacerbate California's current geographic economic inequality. This illegal and inequitable cost shifting will get exponentially worse with rapid load departure because a shrinking number of bundled customers will pay the increasing shifted costs. The Commission must act quickly to fix the PCIA and eliminate cost shifting.

2. Future costs

Prior to SB 350, each load serving entity procured renewable resources that it determined to be the least cost/best fit for the LSE's individual portfolio. LSEs were not required to procure resources that would be best for the overall system, nor was the Commission required to consider the overall system when approving procurement decisions. Indeed there was no system plan; system procurement was

[5] Pub. Utilities Code §§ 365.2, 366.3.

just the aggregation of individual decisions by individual LSEs. SB 350 fundamentally changed this procurement paradigm.

Now, the Commission is required to determine the procurement that is needed for "a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner."[6] Each LSE is required to submit an integrated resource plan that meets a set of criteria, including meeting GHG reduction targets, RPS requirements, system and local reliability, and minimizing local air pollution, all while minimizing impacts on ratepayers.

SB 350 explicitly recognized that the system plan may not be the plan that is the least cost for individual LSEs. Additional more expensive procurement may be required. In that case, the Commission "shall ensure that the costs are allocated in a fair and equitable manner to all customers consistent with 454.51, that there is no cost-shifting among customers of load-serving entities, and that community choice aggregators may self-provide renewable integration resources consistent with Section 454.51."[7]

In this new paradigm, we should expect a tension between the desire of individual LSEs to continue to procure the least expensive renewable resources (intermittent solar PV) and the needs of the system for "a diverse and balanced portfolio of resources." The Commission must resolve this tension so that the best resources for the overall system are procured and paid for by all customers.

C. Gas

The draft Green Book gives only passing mention to natural gas, asking "[w]hat is needed [to] reduce the use of fossil fuels such as natural gas, which is used not just for electric power, but also for industry and in homes and buildings?"[8]

What is needed first is a plan to manage the effect on millions of customers of gas rates that will increase as gas throughput is reduced.

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[6] Pub. Utilities Code §§ 454.41, 454.52.
[7] *Id*. at § 454.52(c).
[8] Green Book, p. 6.

The volume of natural gas used for electric generation has declined and will continue to decline as the Renewable Portfolio Standards in SB 350 are implemented. At the same time, there are various efforts to require that new and existing buildings use no gas. Electrification of buildings will result in fewer gas utility customers and less gas running through the pipelines. But there will still be some gas running through the pipelines and, therefore, the pipelines will still require investment and maintenance. The cost to maintain the pipelines will be the same as before, but will be paid by just the remaining customers. This smaller pool of customers will have to foot the whole cost by paying more. This will adversely impact millions of homes and businesses that depend on gas for space heating, water heating and cooking.

Alternatively, if the utility has fewer customers but does not raise rates, it will have less revenue. The revenue won't be enough to cover the costs to pay workers to maintain the system. Fewer workers translates to a less safe and less reliable gas system. Some of the anticipated impacts include fewer leaks detected and repaired, reduced customer response levels at call centers, extended response time from reconnections, delayed restoration of service, deferred reliability maintenance projects, deferred gas pipeline replacements, and slower emergency response times.

As far as we can tell, the Commission has not begun to consider how to manage the cost of the gas infrastructure with the reduced volume of gas using that infrastructure.

Electrification will also impact California's natural gas generation fleet. In 2017, the 578 MW Sutter Energy Center and the 1,200 MW La Paloma plant closed because they could not earn sufficient revenues in the CAISO wholesale market. Calpine also reported that operation of its Yuba City, Feather River and Metcalf Energy Center plants may not be economically viable. This trend will continue. As natural gas plants are needed less, it is predicted that another 4,000 MW to 6,000 MW of plants in California face a significant risk of early retirement. While the Commission has recognized that examining the impact of increased electrification on California's natural gas fleet is an important policy area needing work, the Commission has not initiated a proceeding or identified a phase in the IRP proceeding to address this.

As renewable generation increases, gas-fired generation will decrease. California will need some, but not all, of its current gas fleet for flexible, fast

ramping generation and local reliability. The Commission recognizes this issue, but has no plan to decide which gas plants will be needed and has no mechanism to keep plants we need and retire those we don't. Furthermore, California gas supply rates for generators are based primarily on volumetric charges, which disadvantages efficient California plants compared to inefficient out of state plants. Higher GHG emissions result from this rate structure. Also, some California plants pay much higher gas supply rates than other plants based solely on whether they are connected to backbone gas transmission or local gas transmission. This rate structure results in higher GHG emissions.

The final Green Book should recognize that California needs, but does not have, a plan to deal with decreased gas throughput and reduced gas-fired generation.

III. SOLUTIONS ARE AT HAND

A. Reform Strict Liability

The financial viability of IOUs is at stake and will be so long as IOUs can be held strictly liable for damages from wildfires and other catastrophic events regardless of fault. It will be a dark day when the IOUs are no longer creditworthy. Key principles of affordability, decarbonization and reliability will be lost. Fortunately, the solution is really quite simple – inverse condemnation with strict liability must be eliminated.

B. Reform NEM

The Legislature designed AB 327 so that instead of subsidizing NEM participants by compensating them based on the full retail rate, they would instead be compensated based on their costs and benefits to the electric system.[9] The Commission must adopt a successor tariff that calculates the costs (burdens on the distribution and transmission system, costs from over-generation and the need for increased ramping) and system-wide benefits (avoided energy costs, some avoided capacity costs, avoided transmission and distribution costs where they can be shown to exist) and credit NEM participants only the avoided costs on the entire system. The value of power exported to the grid, and what should be paid for it, is the amount any load serving entity would pay in a wholesale contract, which is now less

[9] Bill Analysis, Senate Appropriations Committee, August 26, 2013, p. 2.

than $0.03/kwh. Without NEM reform, NEM participants that don't pay for the distribution system would starve the IOUs of needed revenue for safety and reliability.

C. Reform Distribution Deferral

Our critique of the Commission's approach to distribution deferral is unrelated to the merits of DER technology. CUE wholly supports integrating DERs into the distribution sector as a means of facilitating California's transition to a grid that helps achieve California's environmental goals. However, the benefits of DER technology do not require promoting unregulated control and operation of that technology.

The Commission should encourage or require the utilities to adopt DERs whenever they are the most cost effective option a utility can implement and control. When evaluating the need for upgrades on a distribution circuit, the utilities should adopt an equally reliable DER project whenever it is cheaper than a traditional distribution investment. However, the Commission should not encourage or require the utilities to adopt DERs operated or controlled by unregulated third parties. Deploying DERs in place of more traditional resources will only achieve a cleaner, safer, more reliable grid if these DERs are part of a sensible regulatory structure.

D. Reform PCIA

The Commission must fix the PCIA now to completely eliminate cost shifting between bundled and departed customers. The Commission can't wait and customers can't wait. To achieve customer indifference, above-market costs must be based on actual costs and actual market revenues, not on hypothetical values for the IOUs' resources. This ensures that all customers pay their pro rata share of above-market costs that were incurred on their behalf.

E. Implement IRP For All

We are past the point where LSEs can be allowed to buy nothing more than least cost resources (i.e. intermittent solar PV). We need to begin procuring resources with different generation profiles as well as storage. However, it is contrary to each LSE's economic self-interest to procure these more expensive resources. The Commission took the first necessary step toward a "diverse and

balanced portfolio" by requiring all LSEs to submit an IRP. Now, the Commission must require all LSEs to contribute their fair share toward achieving that balance. If not, the IRP will become a hollow filing requirement rather than the vehicle California needs to integrate renewable resources and achieve the 2030 GHG emissions target.

F. Study Gas Future

A policy proceeding for gas is warranted. The Commission needs to devise a plan to manage the cost of gas infrastructure as the use of gas declines. The Commission must also examine the impact of increased electrification on California's natural gas generation fleet. The State needs a thoughtful, targeted approach for the orderly retirement of some facilities and the continued operation of others, taking into account location-specific aspects of natural gas generation, including impacts on disadvantaged communities and air quality impacts. By taking a holistic approach to the viability of the natural gas fleet (i.e. identifying which natural gas plants should remain in operation in order to provide essential flexibility and reliability functions and which plants should be retired to make room for non-carbon generation from renewables), the Commission avoids closing essential plants while non-essential plants remain online.

IV. CONCLUSION

The Green Book is on the right track. We must have a serious and sincere dialogue about the current policies that threaten California's objectives of affordability, decarbonization and reliability. The Commission must acknowledge the dangers of its path. But it is not enough to talk about it. The Commission must quickly implement the solutions at hand so that we do not relive the disastrous past.

Sincerely,

Rachael Koss

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