

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

Order Instituting Rulemaking to Continue
Electric Integrated Resource Planning and
Related Procurement Processes.

Rulemaking 20-05-003
(Filed May 7, 2020)

**THE PROTECT OUR COMMUNITIES FOUNDATION COMMENTS ON THE
ALTERNATE PROPOSED DECISION REQUIRING PROCUREMENT TO ADDRESS
MID-TERM RELIABILITY (2023-2026)**

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The Protect Our Communities Foundation (“PCF”) provides these opening comments on *The Alternate Proposed Decision Requiring Procurement To Address Mid-Term Reliability (2023-2026)* (“APD”).¹ These comments are timely filed pursuant to Rule 14.3.

I. INTRODUCTION

PCF requests that the Commission remove all authorization for procurement of green hydrogen-fired generation or gas-fired generation from the APD.

This APD represents a critical decision for the Commission. The record shows and the following comments detail how renewable energy paired with storage has become cheaper, cleaner and more reliable than gas-fired generation or green hydrogen-fired generation. Energy Division modeling, previous Commission decisions, the IOU’s Joint ELCC Study, UC Berkeley, Lazard, GTM Research, and the results of real-world solicitations have all determined that California only needs to procure renewable energy and storage going forward. The overwhelming evidence shows that the Commission should reject any new fossil fuel procurement including the fossil fuel procurement ordered in the APD.

The record also informs the Commission to reject hydrogen-based procurement. At best, authorization of green hydrogen-fired generation is a decade premature. If the Commission authorizes green hydrogen procurement now, that procurement order will result in far higher electricity costs than if the Commission were to just authorize procurement of solar-plus-storage

¹ R.20-05-003, *Alternate Proposed Decision Requiring Procurement To Address Mid-Term Reliability (2023-2026)* (“APD”), (May 21, 2021).

and wind-plus-storage resources. The following comments highlight specific research supporting these facts.

II. THE APD’S AUTHORIZED PROCUREMENT OF GREEN HYDROGEN INCREASES RATEPAYERS COSTS, FAILS TO MAXIMIZE CLEAN ENERGY GENERATION, AND VIOLATES § 454.51(a).

UC Berkeley researchers characterize green hydrogen burned in gas-fired turbines as one of several pathways for eliminating the last 10% of carbon emissions from the electricity sector. Excluding nuclear, California’s GHG-free generation equals 44%, far less than the 90% threshold where strategies like green hydrogen should be reviewed.² California needs to add tens of thousands of additional megawatts of renewable energy generation before the Commission should start considering how it will decarbonize the last 10% of the electricity sector.³

The Berkeley researchers themselves refer to all of the pathways for eliminating the last 10% of emissions as “inherently speculative at this time” showing that the APD’s authorization of green hydrogen procurement is premature.⁴ Further, the Berkeley researchers estimate that after approximately 10 more years of electrolyzers’ cost reductions and cost reductions of renewably generated electricity required to run the electrolyzers, the 2030 costs of “using green hydrogen in hydrogen-ready turbine retrofits... imply generation rates around 11.7 cents/kWh...”⁵ That equates to \$117/MWh.

The researchers estimated \$117/MWh by using several favorable price assumptions. The most relevant assumptions for the APD is that the pricing will only be available when “solar and wind dominate the electricity mix” and “average input electricity prices [equal] around 2

² California Energy Commission, 2019 Total System Electric Generation (“CEC 2019 Electric Generation”), [last accessed June 8, 2021], (Total Renewables 31.7% - Biomass 2.44% + Large Hydro 14.62% = 43.88%), see <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation>.

³ California’s peak load in 2020 equaled 47,121 MW. Tracking solar has a capacity factor of 25-30%. Using solar as a proxy for renewable energy generation, the Commission may need to procure up to 150 GW of solar with tens of GW of storage to address 24-hour reliability and account for intermittency.

⁴ Energy Innovation Policy and Technology LLC, *Illustrative Pathways To 100 Percent Zero Carbon Power By 2035 Without Increasing Customer Costs* (“2035 Pathways Study”), (September 1, 2020), (Two of the authors of the study are “Senior Scientists and Affiliates at the Goldman School of Public Policy, University of California-Berkeley” according to footnote 1 of the whitepaper.), see <https://energyinnovation.org/wp-content/uploads/2020/09/Pathways-to-100-Zero-Carbon-Power-by-2035-Without-Increasing-Customer-Costs.pdf>.

⁵ *Id.*, p. 9.

cents/kWh in 2030.”⁶ Currently in California solar and wind make up less than 23% of the electricity mix⁷ and the electricity transmission costs alone equal 3.8 cents per kWh.⁸ Further, transmission cost have continued to climb annually.⁹ Thus, wind and solar do not dominate the California electricity mix and transmission costs alone foil the goal of ever achieving 2 cent/kWh pricing for electricity needed to run the green-hydrogen-creating electrolyzers. That means that green hydrogen created in California and burned in gas-fired generators will never be able to produce electricity at prices as low as UC Berkeley’s optimistic estimate of \$117/MWh.

However, even if green hydrogen *were* able to produce electricity at \$117/MWh, that equates to electricity 3.5 times more expensive than current solar-plus-storage contracts and 5.8 times more expensive electricity than electricity generated by stand-alone solar.¹⁰

UC Berkeley is not alone in its conclusion that electricity production using gas-fired hydrogen power plants far exceeds the cost of electricity generated by renewable energy. Columbia University’s Center on Global Energy Policy has calculated that “[t]o achieve cost parity with natural gas, hydrogen must be produced at roughly \$0.3 per kilogram,” and that “green hydrogen costs between \$4.50 and \$8.50/kg to produce from zero-carbon electricity.”¹¹ Thus, the cost of green hydrogen is 15 to 28 times more expensive than natural gas.¹² On the other hand, electricity from renewable power plants costs *less* than electricity from gas-fired generators.¹³ The analyses by UC Berkeley and Columbia University show that investments in

⁶ 2035 Pathways Study, p. 4.

⁷ CEC 2019 Electric Generation,

⁸ CAISO transmission costs, (January 1, 2021), (SDG&E HV transmission cost \$13.6/MWh + SDG&E LV transmission cost \$24.4 MWh = \$38/MWh = 3.8 cents/kWh), see http://www.aiso.com/Documents/HighVoltageAccessChargeRatesEffectiveJan01_2021Revised04202021.pdf.

⁹ CAISO transmission costs for SDG&E service territory in 2020 were \$30/MWh. Thus, 2021 costs are 26% higher than 2020 transmission costs.

¹⁰ Greentech Media, L.A. Looks to Break Price Records With Massive Solar-Battery Project, (July 1, 2019), (LA PPA = \$19.97/MWh or \$33/MWh when combined with 100MW / 400MWh storage), see <https://www.greentechmedia.com/articles/read/ladwp-plans-to-break-new-low-price-records-with-massive-solar-battery-proje>.

¹¹ Columbia Center on Policy and Energy, Blanton, Erin, Melissa Lott, Kirsten Nicole Smith, *Investing In The Us Natural Gas Pipeline System To Support Net-Zero Targets*, (April 2021), see https://www.energypolicy.columbia.edu/sites/default/files/file-uploads/GasPipelines_CGEP_Report_042221.pdf.

¹² $(4.5/0.3) = 15$; $(8.5/0.3) = 28.33$.

¹³ Lazard, *Lazard’s Levelized Cost of Energy Analysis Version 14.0* (October 2020) p. 2, (According to Lazard, the mid-point of the LCOE range for new unsubsidized solar equals \$36.5/MWh, wind equals

green hydrogen amount to expensive gambles on unproven technology that will likely never result in a cost-effective path to decarbonization in California.

The U.S. Energy Information Administration lists the California IOUs as having some of the highest electricity rates in the U.S.¹⁴ SDG&E's rates are the highest in the continental U.S. when compared to other IOUs with customer counts greater than 100,000.¹⁵ Authorizing procurement of expensive green-hydrogen-based generation would increase rates further.

Section 454.51(a) of the Public Utilities Code states that the Commission shall "Identify 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."¹⁶ Neither the Energy Division's RESOLVE modeling, nor the SERVVM modeling selected any new fossil-fueled generation or gas-fired generation that uses green hydrogen.¹⁷ That mean the Energy Division's modeling has determined less expensive ways to achieve the mandatory greenhouse gas emissions target of 46 MMT rather than by using green hydrogen. Thus, any authorization to use green hydrogen violates Section 454.51(a).

III. REQUIRING NEW FOSSIL FUEL GENERATING CAPACITY VIOLATES MULTIPLE CALIFORNIA STATUTES, CONTRADICTS THE ENERGY DIVISION'S RSP MODELING RESULTS, REDUCES RESOURCE DIVERSITY, INCREASES PARTICULATE EMISSIONS, AND INCREASES GREENHOUSE GAS (GHG) EMISSIONS.¹⁸

The Commission cannot order procurement of gas-fired resources without (1) violating California law, (2) contradicting the Energy Division modeling, and (3) selecting a more polluting and more expensive resource than readily available renewable resources.

\$40/MWh, and gas combined cycle equals \$58.5/MWh.) see

<https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>.

¹⁴ EIA, Residential Electricity Rates, Table T6, see https://www.eia.gov/electricity/sales_revenue_price/.

¹⁵ *Ibid*.

¹⁶ All further references to code are to the Public Utilities Code, unless otherwise indicated.

¹⁷ D.20-03-028, Table 5, p. 41.

¹⁸ Section II of these comments are identical to PCF's Section III comments on the PD. Both the APD and the PD authorize procurement of fossil-fueled generation and thus this section is applicable to both PDs.

A. When justifying gas-fired procurement, the APD contradicts its own claims of additionality.

The APD explains that “[o]ur primary purpose here is to require the LSEs to develop *new*... energy resources to address growing resource adequacy needs for new generating, non-generating, and hybrid resources.”¹⁹ The APD also concluded that “[t]his decision addresses the mid-term reliability needs of the electricity system... by requiring at least 11,500 megawatts (MW) of *additional* net qualifying capacity [NQC]...” emphasis added.²⁰ Through those statements the APD makes clear that all 11,500 MW of ordered procurement represent incremental capacity. Then the APD contradicts itself by claiming that the inclusion of new fossil fuel capacity would not function as a new energy resource but rather as a replacement of existing fossil fuel capacity. The APD asserts that the ordered gas-fired capacity procurement “allows for the retirement of less efficient fossil-fueled generation in favor of more efficient and less-emitting technology.”²¹

If the goal of the gas-fired generating capacity is mainly to provide minor incremental pollution benefits while keeping the same amount of fossil-fuel-based capacity online, then a more optimal strategy would be simply to keep all existing gas-fired capacity available²² while increasing the renewable generating capacity. New capital expenditures in the form of new gas turbines needlessly extend the use of gas-fired generation at existing sites. The APD itself admits that new gas-fired generators will be more expensive than existing gas-fired generation when it states that “[i]n order to induce developers of resources to make large capital investments and finance their projects, it is likely that at least a 10-year contract is necessary.”²³ Thus, by maintaining existing gas-fired capacity, rather than purchasing new capacity, the Commission reduces the likelihood of stranded assets.²⁴ New capacity has a useful life of 40 years and analysts expect nearly all gas peaking plants to be more costly than battery backup by 2027 at the

¹⁹ APD, p. 20.

²⁰ APD, p. 2.

²¹ APD, p. 44.

²² Excluding once-through-cooling units

²³ APD, p. 70.

²⁴ New gas generators typically have a lifespan of 40 years as noted in the PD at page 13. Thus a 10-year contract will likely lead to stranded costs unless the generators compress the capital costs of all 40 years into the initial 10-year contract.

latest.²⁵ The APD itself acknowledges California’s ability to keep gas-fired generators in standby when it states that “having [fossil-fueled resources] available, but running at their minimum levels or not running at all, still acts as an insurance policy during the operational transition to more renewables and energy storage on the system...”²⁶

Minimizing the use of gas-fired generators is an excellent strategy for transitioning to carbon free energy and does not require newer more efficient gas-fired generation. Keeping the existing already-depreciated generators in reserve for a handful of peak demand hours will not create significant pollution increases compared to new generator even though those old generators are slightly less efficient than new generators would be. As California continues to expand its renewable generation capacity, the gas-fired generators will run less every season and thus pollute less every season. On the other hand, a very important goal for California involves increasing renewable energy capacity.²⁷ The Commission should focus on rapidly increasing renewable energy generation capacity rather than becoming distracted with building new fossil fuel capacity.

B. The Energy Division’s portfolio modeling, the Commission’s RSP, and third-party energy modeling have all found zero need for new gas-fired generation.

Neither the Energy Division’s RESOLVE modeling, nor the SERVM modeling selected any new fossil-fueled generation.²⁸ However, the APD stated that “the SERVM modeling... gives us less confidence in this result.”²⁹ Regardless of the APD’s amorphous “confidence” level, the fact remains that the quantitative modeling completed by the Energy Division selected no new gas-fired generation through 2030. The Energy Division modeling determines the most cost-effective path for maintaining reliability and establishes the resources needed to meet California’s clean energy goals. The modeling embodies the method by which the Commission complies with its statutory directives when analyzing and developing procurement orders. Section 454.51(b) requires the Commission to adopt the most cost-effective path to achieve

²⁵ GTM Research, *Will Energy Storage Replace Peaker Plants*, 2018 Advanced Energy Conference, (March 28, 2020), p. 17, available at https://www.stonybrook.edu/commcms/aertc/conference2018/conference/presentations/Manghani_Ravi_powerpoint.pdf.

²⁶ APD, p. 41.

²⁷ Senate Bill (SB) 100, (September 2018).

²⁸ APD, p. 43.

²⁹ *Ibid.*

California’s clean energy goals.³⁰ The Commission itself has adopted the modeling process as the way in which it assesses procurement alternatives, and the modeling assumptions and results constitute the evidence upon which the Commission relies to act in accordance with California’s procurement statutory requirements. The Energy Division’s most recent modeling resulted in recommendations that are contrary to the APD’s conclusions. Moreover, no evidence in the record supports the APD’s choice to require new fossil-fueled generation.

The Commission in D.20-03-028, the decision that selected the 2019-2020 RSP, detailed the renewable energy resources, including solar plus storage, that can provide firm capacity.³¹ The Commission-adopted 2019-2020 RSP followed the RESOLVE modeling and included zero fossil fueled-generation through 2030.³² The following table shows the new capacity selected in the 2019-2020 RSP.

Figure 1: Reprint of D.20-03-028 Table 5 showing new capacity for the 2019-2020 RPS³³

Resource Type	2020	2021	2022	2023	2024	2026	2030
Wind	-	34	1,950	1,950	2,737	2,737	2,837
Wind on New Out-of-State Transmission	-	-	-	-	-	-	606
Utility-Scale Solar	2,000	4,000	6,000	8,000	8,000	8,000	11,017
Battery Storage	152	2,453	2,453	2,453	3,299	6,127	8,873
Pumped (long-duration) Storage	-	-	-	-	-	973	973
Shed Demand Response	-	222	222	222	222	222	222
Natural Gas Capacity Not Retained	-	-	-	-	-	-	(30)

Not only does the RSP *not* select gas-fired generation, it shows the retirement of 30 MW of gas-fired generation by 2030. Additionally, the procurement of approximately 14,500 MW of renewable energy capacity and 9,500 MW of storage by 2030 will reduce the amount of time per year that the remaining gas-fired generation will operate.

³⁰ Public Utilities Code § 454.51(b), (“(b) Direct each electrical corporation to include, as part of its proposed procurement plan, a strategy for procuring best-fit and least-cost resources to satisfy the portfolio needs identified by the commission pursuant to subdivision (a).”).

³¹ D.20-03-028, p. 24 (“Such capacity could come from a number of potential sources: firm imports, batteries paired with solar, geothermal, demand response, or more economic retention of existing natural gas generation.”).

³² D.20-03-028, Table 5, p. 41.

³³ D.20-03-028, Table 5, p. 41.

Modeling by UC Berkeley supports the conclusions in the Energy Division modeling and the Commission adopted RSP.³⁴ The report states that a reliable 90% clean energy grid can be built by 2035 and “no new fossil fuel plants are built.”³⁵

A financial and energy analysis on the levelized cost of energy (“LCOE”) published annually by Lazard further bolsters the Energy Division’s modeling conclusions.³⁶ According to Lazard, the mid-point of the LCOE range for new unsubsidized solar equals \$36.5/MWh, wind equals \$40/MWh, and gas combined cycle equals \$58.5/MWh.³⁷ That shows new gas generation facilities cannot compete with the cost of renewable generation. California has already seen a power purchase agreement (“PPA”) for a solar-plus-storage installation that equals \$33/MWh.³⁸ That means the cost of solar-*plus*-storage in California remains below Lazard’s LCOE for standalone solar and thus is less expensive than new fossil fuel generation capacity.

Further supporting the research from Berkeley and Lazard, GTM Research projects that as early as 2022 stationary storage will out-compete gas peaker plants for capacity needs.³⁹ It concludes that by 2027 “storage almost always wins.”⁴⁰

In CAISO service territory, California has already have achieved price parity between storage and peaker plants. SDG&E, SCE, and PG&E all ran solicitations in response to the ordered capacity procurement in D.19-11-016.⁴¹ None of the utilities received winning bids even

³⁴ The University of California Berkeley Goldman School of Public Policy, *The 2035 Report*, (June 2020), p. 29, available at <http://www.2035report.com/wp-content/uploads/2020/06/2035-Report.pdf?hsCtaTracking=8a85e9ea-4ed3-4ec0-b4c6-906934306ddb%7Cc68c2ac2-1db0-4d1c-82a1-65ef4daaf6c1>.

³⁵ *Ibid*, p. 4.

³⁶ Lazard, *Lazard’s Levelized Cost of Energy Analysis Version 14.0* (October 2020) p. 2, (The top end of solar’s LCOE range equals \$42/MWh the bottom end of the range of LCOE for combined-cycle generators equals \$44/MWh.) see <https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>.

³⁷ *Ibid* (the solar LCOE is lower still for “thin-film utility scale solar.”).

³⁸ Greentech Media, L.A. Looks to Break Price Records With Massive Solar-Battery Project, (July 1, 2019), (LA PPA = \$19.97/MWh or \$33/MWh when combined with 100MW / 400MWh storage), see <https://www.greentechmedia.com/articles/read/ladwp-plans-to-break-new-low-price-records-with-massive-solar-battery-proje>.

³⁹ GTM Research, *Will Energy Storage Replace Peaker Plants*, 2018 Advanced Energy Conference, (March 28, 2020), p. 17, available at https://www.stonybrook.edu/commcms/aertc/conference2018/conference/presentations/Manghani_Ravi_powerpoint.pdf.

⁴⁰ *Ibid*.

⁴¹ Resolution E-5101, (SCE tranche 1 procurement for D.19-11-016); Resolution E-5100, (PG&E tranche 1 procurement for D.19-11-016); Resolution E-5117, (SDG&E tranche 1 procurement for D.19-11-016).

from *existing* gas-fired generation facilities – facilities that would not be required to recoup large initial capital expenses that new facilities will have.⁴² In fact all 18 of the winning bids were either stand-alone storage or renewable generation paired with storage even though all of the facilities were competing head to head with existing gas-fired generators.

All of these Commission modeling exercises, non-Commission modeling exercises, and real-world solicitations have quantitatively determined that building new renewable energy generation capacity is cheaper, more reliable, and less polluting than gas fired generation.

Finally, the APD admits that it orders gas-fired generation *without supporting evidence* when it states that:

For the mostly-*qualitative reasons* already discussed in this section, we are convinced that we should require or encourage 800 MW of resources that can be dispatched and also generate energy as an insurance policy to ensure reliability through the transition in the middle of this decade... [emphasis added]⁴³

The Commission cannot override the mountain of evidence detailing that clean energy capacity expansion best serves ratepayers and society. Qualitative reasoning referenced by the APD amounts to gut instinct and should be discarded when all the *quantitative* evidence rejects any future procurement of fossil-fueled generation. California Executive Order B-55-18 states that California’s clean energy goal is “to achieve carbon neutrality as soon as possible.”⁴⁴ Procurement of expensive and non-competitive fossil fuel resources moves California further away from its clean energy goal.

C. Required procurement of fossil fuel resources violates § 454.51(a).⁴⁵

Section 454.51(a) states that the Commission shall: “Identify 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*. The portfolio shall rely upon zero

⁴² *Ibid.*

⁴³ APD, p. 44.

⁴⁴ California Executive Order B-55-18 (September 10, 2018) (establishes a “new statewide goal...to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter”). Available at <https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf>.

⁴⁵ All further references to code are to the Public Utilities Code, unless otherwise indicated.

carbon-emitting resources to the *maximum extent reasonable...*”[emphasis added].⁴⁶ The APD’s order to procure up to 800 MW of gas-fired generation violates § 454.51(a) by reducing the diversity of grid resources and refusing to purchase clean energy capacity when clean energy capacity costs less than fossil fuel generation capacity.

The most recent statistics released by the California Energy Commission (“CEC”) show that natural gas generation comprises 34.23% of the state’s electricity usage.⁴⁷ The next closest generation type is large hydro with 14.62%.⁴⁸ Thus, to increase grid diversity the Commission must reduce the amount of gas-fired generation. The APD’s limiting of solar and wind procurement by mandating gas-fired generation leads to a reduction in the diversity of grid resources in violation of § 454.51(a).

Finally, as noted above in section III (B), gas-fired generation costs more than renewable generation sources and provides less reliable capacity. New gas-fired generation remains a non-renewable resource and the data shows that it is certainly not cost-effective, thus gas-fired generation does not provide “renewable energy in a cost-effective manner” as required by § 454.51(a).

D. Required procurement of fossil fuel resources violates § 454.51(d).

Section 454.51(d) states that the Commission shall: “Permit community choice aggregators to submit proposals for satisfying their portion of the renewable integration...” In contrast the APD states that:

The CCA community has made it clear that they are focused on non-fossil-fueled resources, and the ESPs are less likely to make these investments due to their shorter customer commitment timelines. Therefore, we find it reasonable to ask the IOUs, collectively, to seek 500 MW of incremental natural gas resources as part of their allocations in this order, by no later than 2025.⁴⁹

⁴⁶ Public Utilities Code § 454.51(a), (“(a) Identify 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. The portfolio shall rely upon zero carbon-emitting resources to the maximum extent reasonable and be designed to achieve any statewide greenhouse gas emissions limit established pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code or any successor legislation.”).

⁴⁷ California Energy Commission, 2019 Total System Electric Generation, [last accessed June 8, 2021], see <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation>.

⁴⁸ *Ibid.*

⁴⁹ APD, p. 44.

The APD conflicts with Section 454.51(d) by preventing CCAs from procuring their portion of the renewable integration. If gas-fired generation were the only way to establish a reliable grid, then the Commission would be able to force CCAs into purchasing a specific generation type or direct the IOUs to procure on all customers' behalf. However, as explained above in Section II, the Commission in D.20-03-028 determined that solar plus storage can provide firm capacity and the ELCC Study confirmed that conclusion.⁵⁰ Because renewable energy generation paired with storage remains both cheaper and more reliable than gas-fired generation, the Commission must allow community choice aggregators to procure a reliable resource mix of their choice even if that means procurement of primarily renewables paired with storage. The APD's procurement order that requires the utilities to purchase up to 800 MW of gas-fired/hydrogen generation in part for the CCAs violates § 454.51(d).

E. Required procurement of fossil fuel resources violates § 380(b)(5).

With respect to resource adequacy, § 380(b)(5) states that the Commission shall: "Maximize the ability of community choice aggregators to determine the generation resources used to serve their customers." The APD states that its primary purpose is "to address growing resource adequacy needs..."⁵¹ The APD also noted that it has ordered gas-fired generation for qualitative reasons equivalent to gut instinct, as discussed in Section III(B) above. No evidence in the record of this proceeding supports any new procurement of gas-fired generation. Thus, without any evidentiary support, the APD violates § 380(b)(5) and CCAs' right to determine their own resource mix.

It remains undisputed on this record that renewable energy paired with storage has become cheaper, cleaner and more reliable than gas-fired generation. Energy Division modeling, previous Commission decisions, the IOU's Joint ELCC Study, UC Berkeley, Lazard, GTM Research, and the results of real-world solicitations have all determined that California only needs to procure renewable energy and storage going forward. Thus, any orders for new gas-fired generation, increase ratepayers' costs, increase pollution, increase GHG emissions,

⁵⁰ D.20-03-028, p. 24; ELCC Study, p. 2.

⁵¹ APD, p. 20.

decrease grid reliability, and violate § 454.51(a), § 454.51(d), and § 380(b)(5) of the Public Utilities Code.

IV. THE PD AND THE APD UNDERCUT EACH OTHER’S ARGUMENTS THAT NEW FOSSIL FUELED GENERATION IS NEEDED BY ASSERTING A NEED FOR DRAMATICALLY DIFFERENT GAS-FIRED CAPACITIES.

The PD and APD (“PDs”) both authorize fossil-fueled generation for “qualitative reasons.”⁵² Neither of the PDs have justified the hundreds of millions in additional spending resulting from those authorizations. The subjective nature of the authorizations has led to authorization of wildly different generation capacities.

	Minimum Fossil-fueled resources (IOUs only, by 2025)(MW)	Authorized Fossil-fueled resources (IOUs only, by 2025)(MW)	Authorized green hydrogen/fossil resources (authorized, IOUs only, by 2025)(MW)	Total Authorized
PD	1000	500	0	1500
ADP	500	0	300	800

The fact that the PD authorizes three times the fossil fuel capacity compared to the APD demonstrates that the procurement authorizations do not rely on calculations, modeling, or any other metric. The authorizations appear to be random.

Additionally, both the PD and the APD leave the exact fossil-fueled procurement up to the IOUs. In both cases the IOUs could increase their customer costs by at least 50% over the baseline procurement level with zero justification that the maximum authorized procurement is needed. PCF opposes any new fossil-fueled generation, but if the Commission does authorize some new procurement, then it should be for a specific amount for each IOU.

V. CONCLUSION

For the reasons stated above, the APD should be revised to eliminate authorization of fossil-fueled generation and green hydrogen generation.

⁵² APD, p. 44, (“For the mostly-qualitative reasons already discussed in this section, we are convinced that we should require or encourage 800 MW...”).

Respectfully submitted,

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APPENDIX A:

Protect Our Communities Foundation's Proposed Changes for Finding of Fact, Conclusions of Law and Ordering Paragraphs

Key:

Items requested to be removed from the APD are shown with a strike through. ~~Example.~~

Items requested to be added as new text are double underlined. Example.

Notes or labels are shown with italics. *Example.*

Finding of Fact: (requested changes)

Delete finding of fact 15, 16, 18 and 19.

Conclusions of Law: (requested changes)

Delete conclusion of law 14, 16, and 23.

Orders: (requested changes)

Delete orders 5 and 6.