BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes.	Rulemaking 20-05-003

COMMENTS OF CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE AND SIERRA CLUB ON MID-TERM RELIABILITY ANALYSIS AND PROPOSED PROCUREMENT REQUIREMENTS

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COMMENTS OF CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE AND SIERRA CLUB ON MID-TERM RELIABILITY ANALYSIS AND PROPOSED PROCUREMENT REQUIREMENTS

The California Environmental Justice Alliance ("CEJA") and Sierra Club respectfully submit these comments in the above-reference proceeding in response to the Administrative Law Judge's ("ALJ") February 22, 2021 Ruling (hereinafter "ALJ Ruling"). These comments are timely filed pursuant to the ALJ's March 12, 2021 Email Ruling, which extended the comment deadline to March 26, 2021. CEJA and Sierra Club have also joined the Joint Environmental Parties' brief, which is limited to discussing the need to consider greenhouse gas ("GHG") emissions in relation to the retirement of the Diablo Canyon Power Plant ("Diablo Canyon"). Those arguments are hereby incorporated by reference into this brief, which addresses the remainder of the issues related to the ALJ Ruling.

INTRODUCTION AND SUMMARY

This proceeding and this procurement decision present a critical opportunity for the Commission to lead California into a future where the grid is reliable and clean, and where California's disadvantaged communities no longer bear the brunt of the State's polluting resources. The Commission must seize this moment as climate change's devastating impacts are upon us and require immediate action.

The ALJ Ruling, however, ignores the climate crisis and the critical nature of this moment by failing to even consider the impact its intended procurement will have on GHG emissions, air quality, and equity requirements. It also fails, despite having over six months since the September 1, 2020 submission of the last round of load serving entities' ("LSE") integrated resource plans ("IRPs"), to aggregate the plans and produce a portfolio for a Preferred System Plan ("PSP"). To remedy these problems, the Commission must take the following critical steps, among others:

1. Commit to a lower GHG target to ensure that the grid reduces harmful GHG emissions and air pollution as soon as possible. The Commission must actively direct us to a clean energy

future and end our dependence on fossil fuels. The Commission must consider GHGs, air quality, and disadvantaged communities ("DACs") because such consideration is both a legal requirements under the California Public Utilities Code ("Code") and an existential imperative.

2. Ensure procurement is at least consistent with the Senate Bill ("SB") 100 studies and the prior 30 MMT and 38 MMT portfolios to keep the State on a trajectory to meet its GHG requirements. The SB 100 studies unequivocally show that new gas capacity must not be procured if California is to meet our climate requirements. Based on extensive modeling in the IRP and SB 100 proceedings, the Commission can best ensure consistency with GHG requirements by: (1) requiring at least 20,000 MW of procurement; (2) requiring at least 14,000 MW of that procurement from solar and wind resources; and (3) not allowing procurement of any new gas capacity.
3. Direct a significant percentage of the procurement to the Los Angeles ("LA") Basin and to the San Joaquin Valley to facilitate the eventual closure of Aliso Canyon and gas facilities in the most overburdened communities.
4. Set out the requirements for how LSEs will consider GHGs, air quality, and disadvantaged communities when conducting procurement, consistent with statutory mandates.

As detailed in these comments, these actions are necessary to protect our communities, especially the most vulnerable, and directly address the climate crisis. After discussing these critical points below, we directly address the questions asked in the ALJ Ruling.

DISCUSSION

1. The Commission Must Consider the GHG Impacts of Its Procurement Plan.

The ALJ Ruling runs counter to clear statutory requirements by failing to even consider GHG emissions. As detailed in the Code, the Commission must consider GHG requirements in individual LSEs' procurement plans, in the overall system procurement plan, and in relation to Diablo Canyon's replacement. The Commission cannot ignore these requirements simply because they are inconvenient or inconsistent with its analyses.

First, Section 454.52 of the Code[1] requires the Commission to ensure that the LSEs' procurement plans "[m]eet the greenhouse gas emissions reductions targets" established by the

[1] Sections of the Code will hereinafter be referred to as "Section" followed by the number of the section.

California Air Resources Board ("CARB").[2] This is not optional, and yet the ALJ ruling fails to include *any* GHG consideration for the projected procurement. This error must be fixed, and the Commission must set forth clear guidance to ensure that GHGs are considered. The Commission is similarly mandated under the Code to ensure that LSEs procurement plans minimize air emissions with a priority for disadvantaged communities.[3] The Commission must include a requirement to ensure that this mandate is met in planning for procurement, soliciting offers, and evaluating bids so that it is implemented in the LSEs' ultimate procurement decisions.

Second, Section 454.51 mandates that the Commission's IRP procurement portfolio maximize reliance on zero carbon-emitting resources and be designed to meet statewide GHG requirements.[4] Again, this is not optional. The statute forbids the Commission from putting forward a plan that fails to meet GHG requirements and optimize zero carbon-emitting resources. Indeed, the entirety of the Commission's authority to require IRPs rests squarely on the mandate to design a portfolio to meet GHG requirements.[5] The ALJ Ruling's portfolio demonstrably fails to meet this requirement by not analyzing the portfolio's impacts on GHGs and must be corrected.

Finally, the Code directs the Commission to "ensure that integrated resource plans are designed to avoid any increase in emissions of greenhouse gases as a result of the retirement of the Diablo Canyon Units 1 and 2 powerplant."[6] As described further in the Joint Environmental Parties' Opening Comments, the Legislature enacted this mandate when it passed SB 1090 to avoid repeating the mistakes associated with the sudden closure of the San Onofre Nuclear Generating Station, for which "the state is still responding, at significant cost, to the sudden permanent, and unexpected loss of greenhouse-gas-free electricity."[7] I n light of this cost, the Legislature found it "necessary to ensure…that the replacement electricity for the electricity lost due to the retirement of the Diablo Canyon Units 1 and 2 powerplant does not result in an increase in the emissions of greenhouse gases."[8]

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[2] See Cal. Pub. Util. Code § 454.52(a)(1)(A).
[3] Cal. Pub. Util. Code § 454.52(a)(1)(H).
[4] Cal. Pub. Util. Code § 454.51 (the Commission's portfolio "shall rely upon zero carbon-emitting resources to the maximum extent reasonable and be designed to achieve any statewide greenhouse gas emissions limit.").
[5] See Cal. Pub. Util. Code § 454.51.
[6] Cal. Pub. Util. Code § 712.7.
[7] SB 1090, Section 3.
[8] SB 1090 Section 3.

Given these provisions of the Code, the Legislature's mandate is clear: The Commission must track GHG emissions for Diablo Canyon replacement resources and ensure IRPs avoid "any" increase in GHG emissions. Accordingly, the Commission must analyze the impact of its portfolio on GHG emissions overall and in relation to the Diablo Canyon replacement specifically. As an analysis of the Union of Concerned Scientists ("UCS") demonstrates, the only way to meet these requirements is to require more GHG-free procurement.[9]

The ALJ Ruling improperly ignores these statutory mandates by failing to even *consider* GHG emissions. The ALJ Ruling even proposes potential natural gas procurement to replace Diablo Canyon, which directly violates SB 1090. Natural gas procurement, as envisioned by the ALJ Ruling, also directly violates many other mandates and should be rejected outright.[10] The Commission must immediately correct course and require full consideration of GHG impacts, consistent with state law.

2. The Commission Must Ensure that the Procurement is GHG-Free, Diverse, and Consistent With its SB 100 and IRP Modeling.

Concrete information for compliance must guide the Commission's procurement and planning direction. While the ALJ Ruling does not contemplate modeling to assure compliance with the fundamental duties to achieve emissions reductions, considerable work has been done in this proceeding and in the SB 100 proceeding to map out the type and amount of procurement necessary to meet SB 100's and SB 350's requirements. The Commission's and the State's modeling demonstrate key, necessary characteristics for any portfolio designed to meet the requirements of the Renewable Portfolio Standard ("RPS"), SB 350, SB 32, and SB 100. Because, as described above, GHG and renewables requirements are not optional, this extensive analysis must inform any procurement order. Thus, if the Commission is not conducting its own modeling here, the Commission should rely on these portfolios when determining the amount and type of procurement to order.[11]

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[9] *See* Mark Specht, Union of Concerned Scientists, *Countdown to Shutdown: California's Clean Energy Future after Diablo Canyon* (Feb. 23, 2021) https://www.ucsusa.org/resources/countdown-shutdown?_ga=2.256542219.164742804.1616787501-700650409.1614287264.

[10] See *infra* Response to Question 14.

[11] Moreover, as described in Response to Question 1, rather than rely on its highly problematic Planning Reserve Margin calculation and solely on Net Qualifying Capacity, the Commission should require procurement consistent with a lower GHG target as has been mapped out repeatedly in modeling conducted by the Commission and California agencies.

In this proceeding, the Commission has conducted numerous modeling studies to develop three core system portfolios that estimate the total buildout necessary to meet specific GHG targets, as summarized in Table 1 below.

Table 1: Additional MW of Resources Projected in the 2021 TPP Portfolios for 46 MMT and 38 MMT[12] and the 2020 RPS IRP Portfolio for 30 MMT[13]

	46 MMT	38 MMT	30 MMT
Wind	2,943 + 1,062 OOS	5,279+2,649 OOS	5,279+3,000 OOS
Solar	13,043	13,251	14,768
Geothermal	651	0	1,807
Battery Storage	9,368	11,006	12,417
Pumped Storage	627	1,700	2,174
Shed Demand Response	608	222	189
New Fossil Fuel Resources	0	0	0
Total MW New Resources	27,740	34,458	36,934

In addition to the extensive modeling that has been conducted in this proceeding, CARB, the California Energy Commission ("CEC") and the Commission jointly released a report on the resource mixes necessary for California to meet SB 100, GHG, and RPS requirements.[14] The projected portfolio resource additions from six of the scenarios are listed below in Table 2.

[12] The 2021 TPP Portfolios can be accessed on this webpage: https://www.cpuc.ca.gov/General.aspx?id=6442466555.
[13] The 30 MMT Portfolio was provided in the RESOLVE materials, although it was not directly included in a Commission ruling.
[14] Joint Agency SB 100 Report (March 15, 2021) https://www.energy.ca.gov/sb100#anchor_report.

Table 2: Additional MW of Resources Projected in the Joint March 15, 2021 SB 100 Study

	SB 100 Base	*SB 100 High Electrification Base*	*SB 100 No Combustion*	*SB 100 High Electrification*	*SB 100 High Electrification High Flex*	*SB 100 High Electrification No Combustion*
Wind	3,439	4,337	4,188	3,661	3,944	4,188
OOS Wind	1,914	2,158	5,867	6,000	5,671	5,867
Solar	20,040	20,477	15,904	16,226	16,311	15,904
Geothermal	0	0	0	0	0	0
Battery Storage	8,164	8,679	8,716	8,970	8,289	8,716
Pumped Storage	571	1,686	906	798	361	906
Shed Demand Response	0	441	441	0	0	441
New Fossil Fuel Resources	0	0	0	0	0	0
Total MW New Resources	34,128	37,778	36,022	35,655	34,576	36,022

The three core IRP portfolios (Table 1) demonstrate the following key characteristics of a trajectory that meets GHG targets: (1) no portfolio includes new natural gas capacity; (2) every portfolio includes at least 13,000 MW of new solar capacity; and (3) every portfolio includes over 4,000 MW of new wind capacity. Similar to the Commission's IRP portfolios, the SB 100 portfolios highlighted in Table 2 consistently show significant development of solar, wind, and no new natural gas. Specifically, these scenarios show at least 15,000 MW of solar development, and over 5,000 MW of wind development. In addition, the IRP's 30 MMT and 38 MMT portfolios show that over 30,000 MW of new resources will need to be procured by 2030, which is a magnitude similar to the average 36,000 MW of new resources in each of the SB 100 portfolios because the SB 100 scenarios include the entire state, of which CAISO's territory is roughly 81%.

Therefore, results of these modeling efforts support key recommendations for the Commission's procurement order. Based on extensive modeling in the IRP and SB 100 proceedings, the Commission can best ensure consistency with GHG requirements by: (1) requiring at least 20,000 MW of procurement; (2) requiring at least 14,000 MW of that

procurement from solar and wind resources; and (3) not allowing procurement of any new gas capacity.

First, the SB 100, the 30 MMT and the 38 MMT portfolios demonstrate that the Commission should ensure that around 30,000 MW of new clear resources are procured by 2030. In particular, the recent SB 100 study portfolios demonstrate that California will need to procure over 30,000 MW by 2030 to meet the trajectory for SB 100 and 60% RPS.[15] This MW amount is likely considerably more important than a net qualifying capacity ("NQC") metric like the ALJ Ruling relies on from a GHG and air quality perspective. Indeed, the consistency in these modeling results cannot be ignored—they demonstrate the concrete steps the Commission must take to stay on target to meet applicable requirements. There is a reason that SB 100 modeling and the 30 and 38 MMT portfolios find over 30,000 MW of new resources is necessary by 2030—this is the type or procurement required to meet SB 32, the RPS, and SB 100.

The Commission should aim for this benchmark based on the 30 MMT portfolio because it is consistent with the SB 100 studies;[16] it is the only scenario that minimizes air emissions as required under SB 350;[17] and it is the only scenario that does not increase air pollution and meets SB 1090's requirement.[18] Therefore, the Commission should **require at least 20,000 MW of total procurement by 2026**, which is two-thirds of the approximately 30,000 MW that the SB 100 studies, the 38 MMT portfolio, and the 30 MMT portfolio identified as necessary resource additions to meet our GHG and RPS requirements. Consistent with the SB 100 studies and the 30 MMT and 38 MMT portfolios, the Commission should pursue the higher build rate of clean energy. As the SB 100 study describes, "sustained record-setting build rates will be required to meet SB 100 in a high-electrification future."[19]

Second, these studies demonstrate that diverse procurement of solar and wind resources is necessary to put our state on the trajectory to meet SB 100 requirements. While some of this procurement need can and should be filled with 1,000 MW geothermal, 1,000 MW long-term

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[15] Joint Agency SB 100 Report (March 15, 2021) https://www.energy.ca.gov/sb100#anchor_report, p. 10.
[16] *See supra* Table 2.
[17] Energy Division, Updated Criteria Pollutant Analysis (Feb. 20, 2020), ftp://ftp.cpuc.ca.gov/energy/modeling/CriteriaPollutantAnalysisUpdate_20200221.pdf.
[18] *See* Mark Specht, Union of Concerned Scientists, *Countdown to Shutdown: California's Clean Energy Future after Diablo Canyon* (Feb. 23, 2021). https://www.ucsusa.org/resources/countdown-shutdown?_ga=2.256542219.164742804.1616787501-700650409.1614287264.
[19] *See* Joint Agency SB 100 Report (March 15, 2021) https://www.energy.ca.gov/sb100#anchor_report, p. 17.

storage, and additional battery storage, many MW of this need must be met by solar and wind resources. The IRP and the SB 100 modeling convincingly show that a significant amount of solar and wind procurement is needed to meet GHG and RPS requirements. Indeed, if all the LSEs procured only batteries, California would be left with a system by which batteries would be charged by fossil fuel facilities and the total GHGs and air pollution would worsen. This scenario must be avoided at all costs, as it would be impossible for California to meet climate mandates. Consistent with the procurement amounts for solar and wind from the SB 100 and IRP portfolios, we recommend that **at least 14,000 MW of the 20,000 MW** is from either solar or wind resources. This is a fraction of the solar and wind procurement that this Commission and the SB 100 Report described in Tables 1 and 2 above have consistently found necessary to meet GHG and RPS requirement, and this MW value is likely the minimum necessary to meet air quality requirements.

Third, the IRP and the SB 100 modeling clearly demonstrate that the portfolio must not include *any* new gas capacity. No study has shown a need for new gas capacity in 2026 or 2030, and pursuing such capacity would violate GHG requirements under SB 350 and SB 32 as well as the GHG requirements related to Diablo procurement under SB 1090. It is also unclear whether LSEs can meet RPS requirements if procurement is not consistent with the portfolios from this Commission's and the State's modeling work. Therefore, any consideration of gas capacity must be rejected. As described further below, procurement of any new gas plant capacity is also inconsistent with climate, air quality, and disadvantaged communities requirements.[20] The Commission needs to send clear direction that no new gas capacity shall be procured.

The ALJ Ruling improperly fails to consider GHG requirements, and without remedying this error, the Ruling could seriously derail achievement of our GHG goals and requirements. For all the reasons described above, we recommend that the Commission require at least 20,000 MW of GHG-free procurement, of which 14,000 MW should be from wind and solar resources, and that the Commission not allow any new gas capacity procurement.

3. The Commission Should Direct Procurement to Facilitate Closure of Aliso Canyon and Phasing Out Natural Gas Plants.

In addition to requiring diverse, clean energy procurement, the Commission should give direction to ensure that **at least half** of that procurement is directed to local areas to help phase

[20] See *infra* Response to Question 14.

out our reliance on gas generators and Aliso Canyon. Specifically, we recommend that a mix of energy storage and clean renewables be directed to the LA Basin to facilitate the closure of Aliso Canyon. We also recommend that a mix of energy storage and clean renewables be directed to the San Joaquin Valley to facilitate the phase out of our reliance on gas-fired resources. The LA Basin and the San Joaquin Valley have some of the worst air quality in the country, and targeting of storage and clean renewable resources in these areas will help transition away from the generation resources that are contributing to the dire state of the air.

The Draft Procurement Manual correctly notes that "[l]ocal reliability is not sufficiently incorporated into long-term planning."[21] Despite this note, the Procurement Manual recommends that the "CPUC should aim to keep the type of location for the need as broad as possible…."[22] This exhortation ignores local reliability concerns and the many benefits of identifying the location and type of resources to be procured. The Commission must acknowledge that location-specific direction is critical to optimize the siting of preferred resources. This focus is needed now. Without additional direction, we will lose another valuable opportunity to target new resources to meet local reliability requirements, mitigate market power, retire natural gas facilities, and reduce local pollution consistent with California's air quality goals.

Additional direction is the next immediate step. The Commission has already committed itself to focusing on natural gas retirement for future procurement, stating:

> The Commission also acknowledges the need for additional focus on analysis to determine [the] ongoing need for, and potential retirement of, natural gas generators, with a priority on disadvantaged communities and local air pollutant emissions. Much of this work is location-specific and goes beyond the system-level analysis currently being conducted in the IRP proceeding…we commit here to continuing work to develop additional analysis illuminating these questions, and to use any outputs in IRP analysis in the future.[23]

The Commission also raised the need to plan for the retirement of gas plants in other proceedings as recently as June 11, 2020, in a decision from the Resource Adequacy ("RA") proceeding (R.17-09-020):

> We encourage parties to offer developed proposals on how the [Resource Adequacy Central Procurement Entity] could act as the sole procurer of gas generation for local

[21] Draft Procurement Manual, p. A-24.
[22] Draft Procurement Manual, p. A-35.
[23] D.20-03-028, pp. 90-91.

> reliability needs in Track 4 of R.19-11-009, which is scheduled for completion in June 2021. We also encourage proposals on how the Commission can encourage the orderly retirement of gas power plants, with or without the CPE acting as the sole procurer of gas generation.[24]

This quote from the RA decision highlights the crux of the problem: while questions related to who will be procuring resources have been occurring in the RA proceeding, no proceeding at the Commission *is planning and targeting procurement to facilitate* the orderly retirement of natural gas power plants.

In this proceeding's Scoping Rule, the Commission committed to continuing to improve methodologies for evaluating reliability "both at the system and the local level."[25] The Scoping Ruling further described that the procurement track will include activities associated with "[l]ocal reliability needs, emphasizing the Los Angeles Basin and Greater Fresno areas first."[26]

Despite these acknowledgments, the Draft Procurement Manual and the ALJ Ruling do not describe a more focused analysis of the procurement necessary to retire natural gas generators, nor do they include a more concentrated look at what type of procurement is most effective to meet reliability in local areas to reduce our reliance on natural gas. This type of analysis is squarely included within the Scoping Ruling of this proceeding and must be included in this procurement ruling.

This procurement can and should be targeted to local areas, and CAISO has already completed an analysis that can help inform that targeting. Specifically, in its transmission plan and Local Capacity Technical Report, CAISO analyzed the ability of other resources to reduce the need for gas in multiple local areas.[27] Targeting procurement to local areas in the LA Basin would help provide the necessary local reliability to significantly reduce gas usage.

We further request that the Commission require the IOUs to examine ways to increase reliability in San Joaquin Valley and the pilot communities, consistent with Commission direction that provided:

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[24] D.20-06-002, p. 69.
[25] Scoping Ruling, R.20-05-003, p. 5.
[26] Scoping Ruling, R.20-05-003, p. 8.
[27] *See* CAISO 2021 and 2025 Local Capacity Technical Report, http://www.caiso.com/Documents/Final2021LocalCapacityTechnicalReport.pdf ; CAISO 2019-2020 Transmission Plan, Appendix G, http://www.caiso.com/Documents/AppendixG-BoardApproved2019-2020TransmissionPlan.pdf.

> [A]s the pilot projects move forward, PG&E, SCE … should continue to study the best and most cost-effective methods to improve reliability in the pilot communities and the SJV more broadly to provide greater reliability and enable customers to have confidence to switch to all-electric.[28]

The San Joaquin Valley continues to suffer some of the worst air quality in the country, and targeted development of clean resources can not only minimize this burden, but it can also provide economic benefits to low-income communities. Targeting beneficial procurement to the San Joaquin Valley is consistent with the Commission's Environmental and Social Justice Framework and direction in the San Joaquin proceeding.

We further request the Commission direct procurement to the LA Basin to reduce our reliance on Aliso Canyon as soon as possible. When considering Aliso Canyon, it is important to remember what led to discussions of its closure. Between October 2015 and February 2016, the Aliso Canyon natural gas storage facility released at least 109,000 tons of methane, forcing the relocation of thousands of residents for several months.[29] A UCLA study found that many community members living around Aliso Canyon experienced elevated indoor levels of air toxins and persistent health systems following the leaks.[30] After finding many patients with symptoms including headaches, nausea, stomach aches, dizziness, and trouble breathing following the leak, a local physician analyzed blood samples and found signs of bone marrow suppression in samples from Porter Ranch residents, which is associated with exposure to benzene and can lead to anemia and leukemia.[31] When community members repeatedly suffered these health consequences, the Governor called on the Commission to start identifying alternatives and the Commission rightly started exploring how to close Aliso Canyon.[32] Reliance on the Aliso Canyon facility continues to be problematic for the local community and the Commission must start actively planning a path to transition away from it. One of the most

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[28] D.18-12-015, p. 118.
[29] CARB, Determination of Total Methane Emissions from the Aliso Canyon Natural Gas Leak Incident (Oct. 21, 2016), https://ww2.arb.ca.gov/sites/default/files/2020-07/aliso_canyon_methane_emissions-arb_final.pdf.
[30] Diane A. Garcia-Gonazalez, et al., *Associations among particulate matter, hazardous air pollutants and methane emissions from the Aliso Canyon natural gas storage facility during the 2015 blowout* (Nov. 2019) https://www.sciencedirect.com/science/article/pii/S0160412018327314?via%3Dihub.
[31] Sharon McNary, *What Did Porter Ranch Residents Breathe During the Massive Gas Leak? Here's What One Doctor's Quest Revealed*, LAist (Nov. 5, 2019), https://laist.com/2019/11/05/aliso-canyon-porter-ranch-gas-leak-blowout-health-benzene-nordella.php.
[32] *See* I.17-02-002.

concrete ways the Commission can help with that transition is to ensure that a significant amount of the resources procured in this proceeding are targeted to the LA Basin. Aliso Canyon currently serves 17 electrical generators, and so any additional resources can not only provide backup to these generators, but also, and more importantly, allow the State to phase out the reliance and retire them.[33] The Commission must not ignore this critical opportunity.

4. The Commission Should Require Consideration of GHGs and Air Emissions in Procurement.

In addition to taking the steps described above, the Commission should ensure that GHGs, air emissions and disadvantaged communities are considered in procurement. The Commission has previously required LSEs to develop metrics to evaluate air quality and DACs in procurement, by providing that :

> LSEs also must implement evaluation criteria with respect to generation or storage resources located in disadvantaged communities. LSEs must describe their planned evaluating criteria, including any scoring bonuses or other approaches to ensure "early priority" as required by the statute. LSEs must then, at the time of procurement, demonstrate that they followed the identified criteria. In addition, LSE plans must describe policies and evaluation criteria to apply in planning and deciding *when to retire, cancel, or not renew contracts* for existing gas generation units that emit air pollutants that impact disadvantaged communities.[34]

To ensure that air quality, GHGs, and DACs are taken into account during this procurement process, we recommend that the Commission include three specific requirements consistent with the Commission's prior decision. First, each bidders should be required to provide information on its proposed project's impacts on air pollution, GHGs, and disadvantaged communities. Second, during the bid evaluation process LSEs would consider the social cost of carbon and an air quality adder among its quantitative factors, and the outreach and impact to DACs among qualitative factors. Third, LSEs would be required to track the total GHGs and air emissions of their portfolio, including the air emissions in DACs. These three interim steps, as described further below, will help ensure that GHGs, air quality, and DACs are considered in procurement decisions.

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[33] *See, e.g.*, R.19-11-009, CAISO May 2020 Final Local Capacity Technical Study Report, pp. 158-161, https://www.caiso.com/Documents/May1-2020-Final-2021-LocalCapacityTechnicalStudyReport-R19-11-009.pdf Indeed, CAISO's studies have shown that siting storage and other non-gas resources within the LA Basin can reduce the need to rely on gas resources to provide local reliability

[34] D.18-02-018, pp. 69-70 (emphasis added).

First, LSEs should, at a minimum, require the following information in bids: (1) the project's impact on air emissions as calculated with emissions factors from similar facilities and projected operations based on similar facilities; (2) the project's impact on GHGs using the same methodology as for air emissions; (3) whether the project is in a disadvantaged community; (4) whether the applicant has conducted outreach or plans to conduct outreach to any impacted disadvantaged communities; (5) if outreach has been conducted, the input received from the community; and (6) the economic and/or environmental benefits to disadvantaged and low-income communities. This information will allow LSEs to evaluate which projects best meet GHG, air quality, and DAC requirements.

Second, LSEs should evaluate this information in their bid evaluation process. LSEs should utilize both quantitative and qualitative metrics to assess this information. With respect to GHG impacts, LSEs should utilize the social cost of carbon that was developed as part of the March 15, 2021 Joint Agency SB 100 report to evaluate bids for GHG impacts. The SB 100 report calculated the social cost of carbon with varying discount rates. We recommend for this purpose that a 2.5% discount rate and 2016 dollars be used, which results in a social cost of $85.73 per metric ton CO2.[35] This rate is in addition to any projected cap and trade costs and can be used in the interim while the Commission develops a Common Resource Valuation Methodology.

As related to air emissions, we recommend that LSEs utilize the air quality adder that was developed by E3 in the IDER proceeding. E3's analysis found that there is an average air quality benefit from clean distributed generation resources on the order of $21/MWh to $23/MWh.[36] This value can be used in the LSE's analysis of bids by adding this value to resources that do not increase air emissions. Utilization of this adder will help LSEs capture the true cost of the air quality impacts from polluting generation.

Next, we request that the LSEs use additional qualitative metrics to assess impacts to DACs. For example, LSEs should rank projects that provide employment or economic benefits to DACs above other similar projects. "[D]eveloping local workforce participation in clean energy programs is integral to enabling the full range of benefits for low-income customers."[37]

[35] Joint Agency SB 100 Report (March 15, 2021), p. C-2.
[36] *See* R.14-10-003, E3 Air Quality Modeling (Dec. 9, 2020 Workshop).
[37] CEC SB 350 Barriers Study, Executive Summary, p. 1.

Disadvantaged communities also likely desire the development of local[38] energy resources in their communities that support resiliency and provide economic benefits. A focus on distributed generation resources in local communities can help accomplish the strategic goal of strengthening resilience.[39] As a Department of Energy report states: "Investments in energy efficiency, smart grid technologies, storage, and distributed generation can contribute to enhanced resiliency and reduced pollution."[40] Resilience can be achieved through a variety of demand-side options including energy efficiency, demand response, distributed energy storage, and solar PV in local communities, with the target enhancing the resiliency of the local communities with a mix of diverse resources. Increasing grid resilience is one way to help vulnerable communities adapt to climate change.[41] The LSEs should use these qualitative metrics to rank projects above other projects, even if they may appear to cost more just on a cost-basis. Importantly, high quality jobs and other economic benefits for disadvantaged communities is a ratepayer interest.[42]

Third, the Commission should require LSEs to track the total GHGs and air emissions from their portfolios. At a minimum, an LSE's portfolio should be under the GHG intensity of the 38 MMT portfolio, and it must reduce overall GHG emissions on the total portfolio in line with the 38 MMT portfolio. In addition, LSEs should show that their GHG reductions lead to a commensurate air pollution emission reduction. For example, a 30% GHG emission reduction would also result in a 30% reduction in emissions of $PM_{2.5}$ and NO_x. The Draft Procurement Manual notes that a clean resource standard is an option for considering needs and that "this

[38] While recognizing that there is no set definition of "local," this report generally defines local as being located within the community. *See* E. O'Shaughnessy, et al., Community Choice Aggregation: Challenges, Opportunities, and Impacts on Renewable Energy Markets. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-72195. https://www.nrel.gov/docs/fy19osti/72195.pdf, p. 6 (describing the different potential definitions of local).

[39] *See, e.g.,* https://ec.europa.eu/energy/intelligent/projects/en/projects/dg-grid; http://greeningthegrid.org/integration-in-depth/distributed-generation (deploying PV can "increase grid resilience"); https://www.ferc.gov/legal/fed-sta/exp-study.pdf at p. iii ("DG can ..decrease the vulnerability of the electric system to threats…[and] increase the resiliency of other critical infrastructure.").

[40] *See* https://energy.gov/sites/prod/files/2015/04/f22/QER_Ch3.pdf, p. 3.

[41] Executive Office of the President, Economic Benefits of Increasing Electric Resilience to Weather Outages (Aug. 2013) p. 3, ("Grid resilience is increasingly important as climate change increases the frequency and intensity of severe weather.)." https://energy.gov/sites/prod/files/2013/08/f2/Grid%20Resiliency%20Report_FINAL.pdf.

[42] Cal. Pub. Util. Code § 740.8(b)(5).

standard can be designed to determine the need for procurement to reduce criteria air pollutant emissions."[43] We agree with this idea and therefore propose that the Commission require each portfolio to reduce air emissions by the same amount as it reduces GHG emissions. In other words, when the portfolio requires a 30% reduction in GHG emissions, the same portfolio should lead to at least a 30% reduction in air emissions. This will help ensure that the procurement is consistent with SB 350's requirement to minimize air pollution.[44]

RESPONSE TO ALJ QUESTIONS

Planning Reserve Margin

1. Please comment on the appropriateness of a 20.7 percent PRM, which includes additional operating reserves, for purposes of the mid-term reliability analysis included in this ruling. If relevant, propose alternatives and explain your rationale.

The ruling justifies reliance on a new, higher Planning Reserve Margin ("PRM") for the IRP proceeding citing the possibility of future outages and concerns about the accuracy of the models, but neither of these supports turning to a costly increase in the PRM. The Commission should not rely on the unsupported assertions in the ALJ Ruling to raise the PRM and rates. Rather, to ensure that the State has the resources it needs, the Commission should lower the CPUC-jurisdictional electric sector GHG target to 30 MMT by 2030 and require procurement to meet that target. This should result in a significant amount of new capacity, which will be necessary to ensure reliability as well as GHG reductions.

Initially, the Commission's ruling suggests that the "planning standards may be inadequate to avoid [outages] in the future."[45] This assertion wrongly assumes that the outages last August were due to inadequate planning standards and lack of capacity.[46] The facts show that a significant cause of the August 2020 blackouts was the large-scale export of electricity during times of short supply before, during, and after the time when CAISO called for rolling blackouts.[47] It is entirely likely that blackouts would have been avoided without CAISO's Residual Unit Commitment ("RUC") software failures that resulted in exports August 14 and 15 when they were needed by customers within CAISO's footprint. After CAISO fixed the RUC

[43] Draft Procurement Manual, p. A-45.
[44] Cal. Pub. Util. Code § 454.52(a)(1)(H).
[45] ALJ Ruling, p. 5.
[46] ALJ Ruing, p. 5.
[47] *See* CAISO Department of Market Monitoring, Report on system and market conditions, issues and performance: August and September 2020 (Nov. 24, 2020) http://www.caiso.com/Documents/ReportonMarketConditionsIssuesandPerformanceAugustandSeptember2020-Nov242020.pdf.

issue on September 5, and without procurement of additional generation of the type contemplated in this proceeding, California was able to withstand a 1-in-70 heat event over Labor Day weekend, September 5-7 2020.[48]

In addition, the Commission must remember that the vast majority of outages in California are a result of operational issues, transmission and distribution equipment issues, PSPS events, and planned maintenance—not because of capacity shortages.[49] Community members need reliable electricity each and every day, regardless of the cause of the outage. Spending potentially hundreds of millions of dollars to provide capacity for an exceedingly rare 1-in-35 day is not just and reasonable when that money can be better spent improving communities' resilience to outages like PSPS events that occur more and more often each year.

The ALJ Ruling also attempts to justify a higher PRM by stating that a higher operating reserve is needed.[50] While a higher operating reserve does apply to a near-term context, the ALJ's Ruling cites to no authority that suggests a higher operating reserve is required for long-term procurement planning. Nor does it suggest that 15% PRM is insufficient to cover a 6% operating reserve.

The ALJ Ruling further attempts to justify a significant PRM increase by asserting that a range of procurement likely makes sense given inaccuracies with the model,[51] but long-term planning by its definition is never as accurate as the near-term planning required for RA, because the future becomes more uncertain the longer the forecast. Rather, problems with the model, if anything, suggest that a lower GHG target is needed to ensure that the State is on the trajectory to meet GHG requirements. A focus on more meaningful GHG requirements would also accomplish higher procurement, and would ensure that California is tracking the direction that it needs to go. A lower GHG target is also consistent with the majority of LSE's procurement plans, will make it more likely that the energy sector meets GHG requirements, and will ensure that the procurement ordered here is "least regrets" procurement.

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[48] *See* TURN Opening Brief in R.20-11-003 (Jan. 28, 2020), p. 10 (citing CAISO Department of Market Monitoring, Report on system and market conditions, issues and performance: August and September 2020 (Nov. 24, 2020)). TURN's analysis shows the August event was a 1-in-30-year event, significantly less intense than the September heat wave.

[49] *See, e.g.,* https://gis.data.ca.gov/datasets/CalEMA::cumulative-statewide-power-outages-public-view-2 (providing cumulative statewide data on power outages); *see also* https://www.eia.gov/todayinenergy/detail.php?id=45796.

[50] ALJ Ruling, p. 6.

[51] ALJ Ruling, pp. 5-6.

A higher PRM for long-term planning, as suggested in the ruling, is problematic for a number of additional reasons. First, a higher PRM, even in the planning context, does not necessarily lead to more reliability or fewer GHG emissions. A Loss of Load Expectation ("LOLE") study, which has not been conducted for this proceeding, would be needed to determine whether the existing PRM is insufficient in the near term. Second, and relatedly, the near-term is the appropriate horizon for ensuring that a PRM is met. Indeed PRM was designed for the near-term context to ensure that enough capacity was available, to approximate the LOLE when a LOLE study was not available. For mid-and long-term planning, the PRM should not be raised without a detailed LOLE study and justification of the additional costs that would be incurred. Third, a higher PRM would require all LSEs (or CAISO, through backstop procurement) to contract for more capacity, but depending on the resources they procure, additional reliability would not be guaranteed during peak load conditions. Procurement of gas capacity is particularly problematic, as the recent forced outage rate for gas plants during net peak load conditions is extremely high, and as CAISO has stated, continues to grow higher. Utilizing a higher PRM in a longer-term planning context could require significant costly over-procurement for scenarios that are likely to be wrong. The farther out a model is predicting need, the more likely the model will not be right.

Rather than require a PRM higher than is currently required even in the short term, the Commission should require LSEs to plan for a lower GHG target, consistent with the majority of LSE plans and the requirement to minimize air pollution. The 46 MMT base case on which the ALJ Ruling relied will not enable California to meet its GHG and air quality requirements,[52] *increases* emissions that harm disadvantaged communities ("DACs"),[53] fails to ensure

[52] *See* CEJA and Sierra Club, Opening Comments on Load Serving Entities' Integrated Resource Plans (Oct. 23, 2020), pp. 2-5. *See also,* R.16-02-007, Sierra Club and CEJA Opening Comments on Proposed Reference System Portfolio and Related Policy Actions (Dec. 17, 2019), pp. 13-15 (detailing that SERVM and RESOLVE systematically underestimate actual grid GHG emissions). *See also* CEJA and Sierra Club, Reply Comments on the Proposed Reference System Portfolio and Related Policy Actions in R.16-02-007 (Jan. 6, 2020), p. 6 (citing growing agreement with the concern that SERVM and RESOLVE systematically underestimate GHG emissions).

[53] *See* CEJA and Sierra Club Opening Comments on Load Serving Entities' Integrated Resource Plans (Oct. 23, 2020), p.12 (citing that multiple LSEs produced plans showing projected increases in emissions). See R.16-07-002, Sierra Club And CEJA Opening Comments On Proposed Decision on 2019-2020 Electric Resource Portfolios To Inform Integrated Resource Plans And Transmission Planning (Mar. 12, 2020), pp. 4-5 (citing Commission criteria pollutant analysis showing intensive criteria pollutant emissions in 2030 for San Joaquin and LA Air Basins).

reliability,[54] and does not reflect LSE plans.[55] Thus, relying on a 38 MMT or 30 MMT portfolio is not only prudent, it has the additional benefit of being consistent with law.

2. Comment on the appropriateness of a 20.7 percent PRM for long-term planning purposes for IRP in general. If relevant, propose alternatives and explain your rationale.

A PRM of 20% is higher than any other regional transmission operator's reserve margins, which range from 9% to 18%.[56] The additional cost of meeting such a high reserve margin in the medium or long term has not been justified. Indeed, raising the PRM could increase costs without increasing reliability as it is not clear whether that additional capacity will actually be needed. Although it is "only" a 5% capacity increase, the costs will likely be higher to procure an additional 5% of capacity.

While the North American Electric Reliability Corporation ("NERC") and the Federal Energy Regulatory Commission require reliability standards be met in the short term, the same type of reliability standards are not required to be met in the long term. Although planning to meet a 15% PRM in the long term may make sense, meeting a 20% PRM in the long term will be costly and is not shown to be necessary, especially given increasing efficiency, California's population plateauing, and increasing BTM solar and storage. Thus, the additional cost of a 20% PRM may not be just and reasonable, especially when an increasing number of Californians cannot afford electricity.

3. Comment on the appropriateness of a 1-in-2 weather forecast for the electricity demand forecasts for purposes of the mid-term reliability analysis.

It is appropriate to maintain the 1-in-2 weather forecast for the medium term. While it may be appropriate to examine a different weather forecast that incorporates a 1-5 weather forecast in the shorter term, it has not been shown as necessary for the longer term given the variability between medium and long term forecasts and actual energy needs. The Commission should also consider that the differential between the 1-in-2 and the 1-in-5 forecasts is primarily due to air conditioning load, and as such, programs should be developed that directly target that

[54] *See* CEJA and Sierra Club, Opening Comments on Transmission Planning Process Portfolios and Busbar Mapping (Nov. 10, 2020), pp. 4-5 (referencing CAISO's reliability concerns and noting that the 38 MMT portfolio would more likely reduce reliability concerns than the 46 MMT portfolio). *See also,* CAISO Comments on LSE IRPs, p. 3 (Oct. 23, 2020) (describing modeling and reliability concerns).
[55] *See* CEJA and Sierra Club, Opening Comments on Load Serving Entities' Integrated Resource Plans (Oct. 23, 2020), pp. 1-2, 17-18 (chart notes that multiple LSEs plan to procure to a 38 MMT scenario).
[56] *See* EIA, *NERC report highlights potential summer electricity issues for Texas and California* (June 18, 2019) https://www.eia.gov/todayinenergy/detail.php?id=39892.

load, as it being addressed in the Extreme Weather proceeding, R.20-11-003. Therefore, rather than require LSEs to procure additional supply-side resources to meet the rare 1-in-5 weather days, the Commission should first evaluate the potential likelihood and characteristics of such weather occurrences, and then develop programs that are designed to reduce load on those hot weather days.

4. Comment on whether the proposed increase to the PRM sufficiently addresses the likelihood of increasing frequency and intensity of extreme weather events, or whether this risk should be incorporated directly into a reliability-based planning standard (such as, for example, the use of a 1-in-5 or 1-in-10 forecast or incorporating climate models).

The use of different weather forecasts for the PRM has not been adequately addressed in the RA proceeding, where it should be addressed first. At this juncture, the most reasonable action is to require procurement to meet lower GHG targets, consistent with the LSE procurement plans and the need to prioritize reduced air pollution in disadvantaged communities. This will effectively mean significantly more procurement, which will provide additional reliability while helping ensure GHG reductions. Alongside a reduced GHG target, the Commission should conduct a LOLE analysis in the RA proceeding and in this proceeding to examine the probability of a loss of load under different portfolios.

5. Comment in general on your preferred method for setting an IRP long-term reliability-based planning standard. Explain your rationale.

The reliability-based planning standard should utilize SERVM modeling and an analysis of the LOLE to determine whether the planned resources will meet reliability standards. This will allow the balancing of the risks of potential outages against the costs of more procurement to determine what procurement is just and reasonable in the medium to long term. This is also consistent with NERC recommendations to rely on a LOLE study, a Loss of Load Probability study, a deterministic risk-analysis, or a reserve margin supplied by another entity as the basis of a capacity benefit margin.[57]

6. Comment on whether you agree with the approach proposed here for determining need, which corresponds to the "Need Determination – Reliability – Option 3" in Section 6.5.2 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Procurement Framework Staff Proposal.

[57] NERC Standard MOD-004-1, https://www.nerc.com/pa/Stand/Reliability%20Standards%20Complete%20Set/RSCompleteSet.pdf.

The need determination in the ALJ Ruling is not consistent with the process described in Option 3 of the Draft Procurement Manual, which provides that "the planning reserve margin, in terms of system capacity, is set by running a PRM target study: conduct reliability analysis to find the margin that results in a LOLE no higher than 0.1."[58] The Commission should set the PRM through an LOLE study, as described in the Draft Procurement Manual, in order to be consistent with regular Commission and NERC practice. For example, NERC recommends that an LOLE study, a Loss of Load Probability study, a deterministic risk-analysis, or a reserve margin supplied by another entity be the basis of a capacity benefit margin.[59] As the ALJ Ruling describes, "[i]n the past, the loss of load expectation (LOLE) metric has been used as a starting point for setting reliability standards such as the PRM."[60] An LOLE analysis is important because it "measures instances of load not being met due to these reasons across an even wider range of load, weather, and resource supply conditions."[61]

It does not appear that an LOLE analysis was conducted as the basis for the PRM or the need determination. Rather, the PRM for the need determination was developed with ad hoc reasoning that is independent of any process described in the Draft Procurement Manual and inconsistent with the Commission's historical practice and NERC's recommendations. As described in response to Question 1, the ALJ Ruling cobbles together arguments for a higher PRM that are not based on an LOLE study, but rather are based on the ALJ Ruling's perceived issues with the model and concerns with outages. The Commission should reject this analysis which is not based on the type of information necessary to determine whether a costly PRM change is just and reasonable. Without a traditional LOLE study, it is not clear what the optimal PRM might be. Option 4, which includes conducting an LOLE analysis to update all inputs[62] is a better, more data-driven method for calculating need because it takes everyday fluctuations and operational changes into account.

In addition to relying on the existing 15% PRM, the need determination must be based on a lower GHG target to account for statutory mandates as well as LSE preferences. The Draft

[58] Draft Procurement Manual, p. A-42.
[59] NERC Standard MOD-004-1, https://www.nerc.com/pa/Stand/Reliability%20Standards%20Complete%20Set/RSCompleteSet.pdf.
[60] ALJ Ruling, p. 7.
[61] Draft Procurement Manual, p. A-44.
[62] Draft Procurement Manual, p. A-42.

Procurement Manual states that "LSEs' preparation and filing of individual IRPs is a central feature of the planning track of IRP, with important implications for the procurement track."[63] The ALJ's Ruling errs in relying on the 46 MMT portfolio because it fails to reflect the procurement that many LSEs will, in fact, conduct. In their IRPs, numerous LSEs stated that the 46 MMT portfolio is inconsistent with their climate change objectives and procurement strategies and plans.[64] Instead of planning under the 46 MMT portfolio, these LSEs will opt for more aggressive procurement of the resources needed to achieve their own climate goals and state GHG requirements. Given these strong preferences, it is clear that the 46 MMT portfolio does not reflect the intended procurement for many LSEs, and therefore, should not be relied on for this procurement mandate.

It is also disappointing that after months of having access to LSE plans, the Commission has still not compiled a PSP. Since LSEs submitted their IRPs on September 1, 2020, the Commission has compiled and analyzed the plans in the Staff Paper published on December 21, 2020 in the RA proceeding.[65] There is no reason that the Commission cannot now use those plans and the staff analysis from the RA proceeding to develop a preferred system plan. We are concerned that this has not been completed and prioritized in the last six months, as it represents a major setback for the ALJ Ruling's procurement analysis. It appears that the Commission is not considering the LSE's (and stakeholders') preferences for a lower GHG target as it should.

In sum, we recommend that the Commission:

1. Adopt Option 4, which includes conducting an LOLE analysis to update all inputs, and
2. Base its need determination on a 30 MMT or 38 MMT GHG target instead of an increased PRM.

7. Comment on whether you agree with the recommended Mid-Need scenario, explaining why or why not. If you have an alternative proposal, describe it in detail. Also note that Section 6.6 of the Procurement Framework Staff Proposal includes recommendations for need determination during the current IRP cycle (referred to as Phase 1). Comment on whether you agree with those recommendations, to the extent not already addressed by your responses to the questions above,

[63] Draft Procurement Manual, p. A-39.
[64] *See, e.g.*, EBCE IRP, p. 16; MCE IRP, p. 4; PCE IRP, p. 10; SCPA IRP, p. 3. See also CEJA and Sierra Club Comments on LSE IRPs, pp. 17-18, Table 2 (Oct. 23, 2020) (summarizing LSE statements related to 38 MMT).
[65] *See* Addendum to Energy Division Issue Paper and Draft Straw Proposal for Consideration in Track 3B.2 of Proceeding R.19-11-009, https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M355/K770/355770978.PDF (Dec. 21, 2020).

in the context of the procurement proposed in this ruling and/or related to the remainder of this IRP cycle.

The ALJ Ruling's need determination is fundamentally flawed because it relies on the 46 MMT target. The 46 MMT target is inconsistent with state GHG reduction goals for 2030 and 2045. As detailed in our prior comments, the 46 MMT case's GHG emissions are likely higher than 53 MMT, the maximum GHG emissions for the entire electric sector under SB 32 to meet CARB's Scoping Plan mandates.[66] In addition, the ALJ Ruling should not rely on a portfolio that *increases* emissions of natural gas generating resources within the state, particularly when those emissions are intensely concentrated in overburdened air basins like San Joaquin and LA. SB 350 requires that the Commission's IRP process ensure that LSEs "minimize localized air pollutants and other greenhouse gas emissions, with early priority on disadvantaged communities."[67] The 46 MMT case increases emissions from combined cycle, cogeneration, and combustion turbine facilities, and projects very high emissions in two of the most polluted air basins in the country—South Coast and San Joaquin.[68] The projected emissions will exacerbate the current extreme nonattainment statuses for these air basins.[69]

In addition, the 46 MMT portfolio may not meet basic reliability requirements. In fact, even CAISO notes, it is far from certain that the 46MMT scenario will meet reliability requirements.[70] By contrast, the 30 MMT or 38 MMT plans are more likely to reduce these reliability concerns given that they include more procurement than the 46 MMT portfolio, as shown above in Table 1. Thus, we urge the Commission to rely on either a 30 MMT or 38 MMT portfolio for the procurement mandate.

We further urge the Commission to complete the analysis of the preferred system plan as it has had the LSE plans for six months and the analysis is overdue. This procurement mandate should be informed by those plans.

Timing of Procurement

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[66] *See* CEJA and Sierra Club, Opening Comments on TPP Portfolios and Busbar Mapping (Nov. 10, 2020), p. 3 (providing detailed calculations).
[67] Cal. Pub. Util. Code § 454.52(a)(1).
[68] Energy Division, Updated Criteria Pollutant Analysis (Feb. 20, 2020), ftp://ftp.cpuc.ca.gov/energy/modeling/CriteriaPollutantAnalysisUpdate_20200221.pdf, Slide 9, 13.
[69] See CEJA and Sierra Club, Opening Comments on the Order Instituting Rulemaking in R.20-11-003 (describing the extreme nonattainment status of South Coast and San Joaquin Valley).
[70] CAISO, Opening Comments on TPP Portfolios and Busbar Mapping (Nov. 10, 2020), p. 3; CAISO, Opening Comments on LSE IRPs, p. 3 (Oct. 23, 2020) (describing modeling and reliability concerns).

8. Comment on the total annual capacity requirements recommended. If you would make any adjustments, explain your rationale.

As described in responses above, we recommend two primary changes to the procurement requirements. First, we recommend that the procurement need requirements be based on meeting a 38 MMT GHG portfolio at a minimum, and preferably a 30 MMT GHG portfolio. Second, as described above, we recommend that the procurement requirements are directed to local areas to facilitate the eventual phase-out of gas resources and the State's reliance on the highly problematic Aliso Canyon.

9. Should the Commission consider requiring additional capacity, to account for contingencies such as contract delay or failure? If so, how much, and on what basis?

Yes, it should require additional capacity to meet at least the 38 MMT GHG target and facilitate retirement of more natural gas. As described in response to Question 1, we further recommend that the Commission not change the planning reserve margin standard in this proceeding. The extra resources procured to meet the 30 MMT or the 38 MMT GHG scenario and phase out more gas usage provide additional reliability for the grid.

Resources Eligible to Meet Identified Need

10. The process of identifying resource types and amounts that are cost-effective, and can potentially fulfill a procurement need, but have market or other barriers to procurement, is explored in Section 6.5.4 of the Procurement Framework Staff Proposal. Comment on the approach described in this ruling, with reference to the Staff Proposal and/or other approaches you recommend.

As described above, it is critical that the Commission set forth requirements for LSEs to consider GHGs, air quality, and DACs within procurement. These considerations will help ensure that beneficial procurement that faces potential market barriers can be considered. In addition to the comments above, we also request that the Commission expedite the development of a common resource valuation methodology and that no gas, biomass, or biofuels be procured.

A. Common Resource Valuation Methodology Should Be Developed.

As described above, LSEs should consider air quality and GHG impacts of its procurement pursuant to this procurement decision. In addition, the Commission should continue to develop a common resource valuation methodology to further consider procurement. In addition to considering a clean resource standard, the Commission needs to better consider a Common Resource Valuation Methodology that includes non-energy benefits. The Draft Procurement Manual notes that a "CRVM would be used to strengthen the ability of IRP analysis

to inform procurement across various resource-specific proceedings."[71] Staff agrees that it should be implemented,[72] but it does not include a timeline or milestones. A CRVM must be developed, consistent with the Commission's decision.[73]

B. No Gas, Biomass, or Biofuels Should Be Procured.

In addition, as described further below, the Commission should not allow the procurement of new gas resources, and it should limit contracting with resources that pollute communities including biofuel resources.

It should further not allow any new biomass or biofuels procurement. New biomass capacity should not be procured because the climate and air quality impacts of biomass plants are so severe that the Commission should not include biomass and biofuels facilities in any procurement order Biofuel facilities have extremely high emissions factors, meaning that they emit enormous amounts of pollutants per megawatt-hour of generation. Even the cleanest biomass plant can emit over 150% the nitrogen oxides, over 600% the volatile organic compounds, over 190% the particulate matter, and over 125% the carbon monoxide of a coal plant per megawatt-hour.[74] Emissions from a biomass plant can exceed those from a natural gas fired power plant 'by more than 800% for every major pollutant.' This is in part due to the fact that biomass fuels are relatively carbon-rich but not energy-rich compared to fossil fuels. Additionally, biomass plants tend to be much less efficient than gas and coal-fired plants, in part because biomass fuels tend to have far more water content to burn off to produce "useful" energy.[75]

The Commission's own analysis has confirmed that biomass plants have high emission factors: "Among all the resource types considered in the [Commission Energy Division's February 2020] Updated Criteria Pollutant analysis, biomass facilities have the highest emissions factors for NOx and fine particulate matter, and the second highest emissions factor for SO2 (behind biogas)."[76] Comparing the average biomass facility's emissions factors against the

[71] Draft Procurement Manual, p. A-73.
[72] Draft Procurement Manual, pp. A-74-75.
[73] D.18-02-018, p. 143.
[74] Mary S. Booth, *Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal*, Partnership for Policy Integrity, at 5 (Apr. 2, 2014) [hereinafter "Biomass is the New Coal"].
[75] Biomass is the New Coal at 5.
[76] Energy Division, Updated Criteria Pollutant Analysis (Feb. 20, 2020), ftp://ftp.cpuc.ca.gov/energy/modeling/CriteriaPollutantAnalysisUpdate_20200221.pdf, Slide 3.

average California combustion turbine gas plant, a biomass facility would produce nearly times the NOx emissions, just over 12 times the PM2.5 emissions, and over 49 times the SO2 emissions that the gas plant would produce for the same quantity of energy generation.[77]

Biomass plants also produce high amounts of GHGs: "Biomass power plants generate enormous quantities of greenhouse gas emissions. On average, a plant burning wood chips will emit nearly 50 percent more carbon dioxide per megawatt-hour of electricity than a coal plant."[78] Numerous scientific studies that show that cumulative CO_2 emissions from a biomass plant can exceed emissions from a fossil fuel-burning plant for several decades.[79] Furthermore, "[i]n addition to greenhouse gases and criteria pollutants, biomass facilities emit 15 hazardous materials, including dioxins, lead, arsenic, mercury, and even emerging contaminants like phthalates. All of these are dangerous to human health."[80]

Allowing additional procurement of biomass is also inconsistent with SB 350's requirement to minimize emissions with a priority for DACs. Additional biomass procurement would increase the air pollutants in disadvantaged communities because multiple biomass facilities are located in or near disadvantaged communities. Moreover, new capacity contracts would lock in additional years of operation for the state's dirtiest power plants, making it more difficult to develop cleaner alternative energy sources in the same areas. Given the significant air quality and GHG impacts, the Commission should not allow any additional procurement of biomass.

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[77] Using the emissions factors used by the Commission to in its Updated Criteria Pollutant Analysis, the biomass emissions factor divided by the combustion turbine emissions factor result in the following calculations: Biomass average NOx emissions factor (2.3482 lbs/MWh) divided by CT average NOx emissions factor (0.1835 lbs/MWh) yields 12.797 times the NOx emissions. Biomass average $PM_{2.5}$ emissions factor (0.8684 lbs/MWh) divided by CT average $PM_{2.5}$ emissions factor (0.0701 lbs/MWh) yields 12.388 times the $PM_{2.5}$ emissions. Biomass average SO_2 factor (0.3340 lbs/MWh) divided by CT average SO_2 factor (0.0068 lbs/MWh) yields 49.118 times the SO_2 emissions".

[78] Biomass is the New Coal at 5.

[79] *See, e.g.*, Tara W. Hudiburg et al., *Regional carbon dioxide implications of forest bioenergy production*, Vol. 1 Nature Climate Change 419 (2011), http://dx.doi.org/10.1038/nclimate1264; Jérôme Laganière et al., *Range and uncertainties in estimating delays in greenhouse gas mitigation potential of forest bioenergy sourced from Canadian forests*, Vol. 9 GCB Bioenergy 358 (2017), http://dx.doi.org/10.1111/gcbb.12327; Dominick A DellaSala and M. Koopman, *Thinning Combined With Biomass Energy Production May Increase, Rather Than Reduce, Greenhouse Gas Emissions*, Geos Institute (2015), http://www.energyjustice.net/files/biomass/library/biomass_thinning_study.pdf.

[80] Biomass is the New Coal at 6.

11. Comment on whether the suggested amount of geothermal and/or long-duration storage resources should be required to be procured as part of the mid-term procurement requirements.

With respect to geothermal and long-duration storage, we generally support their addition to the procurement mix and further support a specific procurement target for these resources as long as several preconditions are met. We request assurance that the potential local and environmental impacts will be minimized and that local communities will be consulted with before commitments are finalized for projects proposed in their communities. Both geothermal and long-term storage have the potential to cause impacts to communities and the environment if not thoughtfully planned. For example, geothermal facilities can cause adverse water and air impacts, but these impacts can be mitigated in the facility's design and the inclusion of controls. Thus, we recommend that the developers of either geothermal or long-term storage resources ensure that communities are consulted and included within the planning process and that the process, to the extent applicable, utilize best available controls to limit pollution. We further recommend a preference for projects that provide local community benefits for disadvantaged and low-income communities in terms of local hire and other economic and environmental benefits.

12. Describe the risks you see, if any, in relying on specific resource types to fill the proposed procurement need, as well as provide suggestions for how they could be mitigated. For example, there could be some type of identified future juncture where LSEs and/or the Commission could evaluate risks prior to moving forward fully with procurement. As part of this, describe any challenges you see (for example, supply chain issues, siting challenges) that may impact the ability to come online with the timing and amounts proposed.

Relying solely on market forces without more specific instructions could lead to inefficient procurement. We are concerned that without direction, CAISO may need to use its backstop to make up for procurement that does not meet reliability needs for specific areas. We recommend that the Commission work with CAISO to ensure that the resources meet the duration and charging requirements to effectively meet reliability and phase out our reliance on gas resources.

13. Comment on the proposal for all LSEs to engage in joint procurement of geothermal and/or long-duration storage, with the potential for IOUs to be required to backstop such procurement. This suggestion corresponds to Section 7.2.2 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Procurement Framework Staff Proposal. In addition, comment on whether identifying need for backstop procurement in 2023 would allow sufficient time to

contract for and build these resources by 2025, and, if not, how you would propose to address this timing issue.

We reserve the right to respond in reply.

14. Comment on how fossil-fueled resources should be treated for purposes of compliance with the procurement requirements proposed in this ruling. Include responses to the potential limitations suggested above and/or propose additional restrictions, if you feel that fossil generation should count but be subject to limits.

The Commission should not allow *any* procurement of new gas capacity or of repowered capacity. Repowering a power plant is essentially the same as building new capacity, and should not be allowed. Allowing procurement of new or repowered capacity would represent a significant step backward for California at a time when the state must be making climate progress.

Gas fired power plants produce pollution that impact public health, contribute to the climate crisis, and directly harm human health. Fine particulate matter, for example, is closely connected to decreased lung function, more frequent emergency department visits, additional hospitalization and increased morbidity.[81] Any additional pollution is a serious issue in California where many of the state's air basins are in serious, extreme, and/or severe non-attainment for one or more criteria pollutants.[82] Gas plants exacerbate environmental and health harms in California's most polluted air basins. There are "unique risks that increased gas plant emissions pose to disadvantaged communities, particularly during the COVID-19 pandemic."[83] Notably, the majority of California's gas plants are located in the most disadvantaged communities.[84]

[81] American Lung Association, *Particle Pollution,* https://www.lung.org/clean air/outdoors/what-makes-air-unhealthy/particle-pollution.

[82] U.S. EPA, *Green Book: Current Nonattainment Counties for All Criteria Pollutants* (data current as of Dec. 31, 2020), https://www3.epa.gov/airquality/greenbook/ancl.html.

[83] X. Wu *et al.*, *Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis*, Vol. 6:45 Science Advances (2020), https://projects.iq.harvard.edu/covid-pm. Yaron Ogen, *Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID 19) fatality*, Vol. 726 Science Direct (2020), https://www.sciencedirect.com/science/article/pii/S0048969720321215.

[84] "78% of gas-powered plants [in California] are located in frontline environmental justice communities." https://www.offshorewindnow.com/brightline-defense-report

Allowing additional procurement for new fossil fuel capacity is also inconsistent with numerous important state mandates, policies, and rulings including Senate Bill ("SB") 100,[85] California's commitment to decarbonization, SB 32,[86] SB 350,[87] the Loading Order,[88] statutes that require analysis of other resources before procurement of carbon resources, and this Commission's prior decision and planning.

SB 100 requires an orderly transition away from carbon-powered electricity, and Executive Order B-55-18 requires California to achieve carbon neutrality by 2045. Expanding fossil fuel resources is inconsistent with these mandates and is likely to lead to stranded assets as California decarbonizes. Further, the Commission has a duty to ensure its decisions are just and reasonable,[89] and allowing the procurement of additional fossil-fueled capacity is not "just and reasonable" in light of SB 100 and the state's focus on retiring fossil fuel facilities to meet GHG reduction mandates and policies.

Procurement of additional fossil-fueled capacity is also inconsistent with the SB 350 requirement to minimize air emissions, with a priority for disadvantaged communities.[90] It is further inconsistent with SB 350 requirements to optimize procurement of resources other than fossil-fueled generation for integration of renewables. Under Section 454.51(a), the Commission is required to "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."[91] The Code also specifies that "[t]he portfolio shall rely upon zero carbon-emitting resources to the maximum extent reasonable and be designed to achieve" the GHG limit established by CARB.[92] Section 400 further requires the Commission to "authorize procurement of resources to provide grid reliability services that *minimize* reliance on system power and

[85] California Renewables Portfolio Standard Program: emissions of greenhouse gases (De León, 2017-2018).
[86] California Global Warming Solutions Act of 2006: emissions limit (Pavley, 2015-2016).
[87] Clean Energy and Pollution Reduction Act of 2015 (De León, 2015-2016).
[88] D.14-03-004 explains that the Loading Order, developed as part of the state's Energy Action Plan, prioritizes procurement of energy efficiency and demand response resources to meet energy demand, followed by renewable resources and distributed energy resources, and finally, fossil fuel generation. See D.14-03-004, n.3, pp. 6-7.
[89] Cal. Pub. Util. Code § 451.
[90] Cal. Pub. Util. Code § 454.52(a)(1)(H).
[91] Cal. Pub. Util. Code § 454.51(a).
[92] Cal. Pub. Util. Code § 380.

fossil-fuel resources"[93] Section 380 requires that the Commission advance, to the extent possible, "the state's goals for clean energy, reducing air pollution, and reducing greenhouse gas emissions."[94]

Finally, procuring additional gas capacity is inconsistent with the Loading Order, which requires procurement of preferred resources *ahead* of those resources. As the Commission has found, "all utility procurement must be consistent with the Commission's established Loading Order, or prioritization."[95] Accordingly, procurement of gas capacity should not be allowed here.

Rather than procure additional repowered or any polluting fossil fuel capacity, the Commission should focus on a least regrets strategy consistent with air quality and GHG goals and requirements. Investing in new natural gas is not supported by Commission decisions or statutory requirements.

We provide the following specific responses to the proposed ideas in the ALJ Ruling:

1. ALJ Ruling Suggestion: *Prohibit modifications to existing fossil-fueled plants within disadvantaged communities unless they can demonstrate net reductions in greenhouse gases and criteria pollutant emissions.*

   Response: We support a priority for disadvantaged communities, but we disagree that modifications to fossil fuel facilities should be allowed at all. If they are allowed, at minimum, we suggest that this requirement to demonstrate emission reductions should be a minimum requirement for any modifications completed at any fossil fuel facility.

2. *ALJ Ruling Suggestion: Requiring contracts to include dispatch constraints, such as limited generating hours, for fossil-fueled plants within disadvantaged communities.*
   Response: We support this limitation, and request that this applies to all new contracts with existing facilities.

3. *ALJ Ruling Suggestion: Allowing repowered or augmented fossil-fuel contracts to count if they are in effect only for a period of ten years or less.*
   Response: For the many reasons described above, fossil fuel plants should not be allowed to be repowered because repowering plants is inconsistent with climate, air quality, and

[93] Cal. Pub. Util. Code § 400(c).
[94] Cal. Pub. Util. Code § 380.
[95] D.14-03-004, p. 14.

disadvantaged community requirements as well as Commission precedent. In addition, there is no substantial evidence supporting new repowering of fossil fuel plants. "Augmented" fossil fuel projects should only be allowed if storage or software improves emissions and the contracts are for less than ten years.

4. ALJ Ruling Suggestion: *Requiring efficiency improvements or reductions in the rate of GHG emissions for any fossil-fueled plant repowering.*

   Response: For the many reasons described above, fossil fuel plants should not be allowed to be repowered because repowering plants is inconsistent with climate, air quality, and disadvantaged community requirements as well as Commission precedent. In addition, there is no substantial evidence supporting the need for new repowering of fossil fuel plants.

5. *ALJ Ruling Suggestion: For IOUs, allowing fossil-fueled capacity to count, but penalizing its valuation in the least-cost best-fit evaluation in some way.*

   Response: We support consideration of non-energy benefits related to other resources. Work has been conducted in the Integrated Distributed Energy Resources proceeding to value the air quality benefits of distributed generation. Similar metrics can be developed and used here to value non-energy benefits. In addition, the Commission must take a strong stand on fossil fuel generation now. The climate crisis is already being felt in communities across the state, and California is not on track to meet its climate requirements.[96] Indeed, even the federal government has set stronger standards by requiring clean energy by 2035. California must stop procuring fossil fuel facilities now if the state has any hope of meetings its GHG requirements.

6. *ALJ Ruling Suggestion: Also for IOUs, requiring any contract with a fossil-fueled resources to be submitted to the Commission for approval via an application and not an advice letter.*

   Response: We do not think any new fossil fuel capacity should be procured. With relation to existing resources, we support this proposed additional requirement to ensure

[96] Elaine M. Howle, California State Auditor, Report 2020-114, California Air Resources Board, *Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goal*, Summary, http://auditor.ca.gov/reports/2020-114/index.html ("California may not successfully meet its upcoming GHG reduction goal, which will require the State to reduce GHG emissions by nearly 40 percent over the next decade.").

that parties retain substantive rights to protest procurement related to fossil fuel resources. Nevertheless, we prefer that the Commission have a clear requirement that for no new or repowered fossil fuel capacity.

7. *ALJ Ruling Suggestion: Requiring fossil-fueled capacity used to count toward the procurement recommended in this ruling to burn a percentage of green hydrogen (hydrogen produced with zero GHG-emitting resources) or biomethane.*

   Response: We do not support the use of either "green" hydrogen or biomethane for this purpose as described below.

Additional Detail on Green Hydrogen

With respect to green hydrogen, as an initial matter, the Commission has not yet even defined the term. That definitional issue is before the Commission in a separate proceeding, R.13-02-008. As Sierra Club commented in that proceeding, the definition of green hydrogen should be very narrow and include only hydrogen produced exclusively with resources that qualify under the RPS, and the Commission should require users to retire all of the associated Renewable Energy Credits.[97]

More importantly, even if the Commission were to adopt this proposed definition, use of green hydrogen for electricity production would be a costly and inefficient because electrolyzers require 3 to 3.5 times their installed capacity of renewable generation.[98] Abundant, surplus renewable energy is a prerequisite for generating sufficient volumes of truly green hydrogen (as defined by Sierra Club), and such generation would be used far more efficiently by directly serving demand load. Furthermore, the cost of a gas power plant production that burns 20% green hydrogen is about $127/MWh, compared to $44-$73/MWh for a standard gas plant.[99] Both sources of generation are much more expensive than the unsubsidized cost of solar PV

[97] Sierra Club, Food and Water Watch, R.13-02-008, Reply Comments to the Joint Comments of Southern California Gas Company, San Diego Gas & Electric, Pacific Gas & Electric Company and Southwest Gas Corporation Regarding Hydrogen-Related Additions or Revisions to the Standard Renewable Gas Interconnection Tariff (March 8, 2021), p. 4.

[98] Josh Eichman and Francisco Flores-Espino National Renewable Energy Laboratory, California Power-to-Gas and Power-to-Hydrogen Near-Term Business Case Evaluation https://www.nrel.gov/docs/fy17osti/67384.pdf, p. 37.

[99] Lazard, *Levelized Cost of Energy Analysis*, at 2 (Oct. 2020), https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf.

($29-$42/MWh) or wind ($26-$54/MWh).[100] Also, because gas infrastructure cannot safely tolerate high volumes of hydrogen,[101] use of green hydrogen in existing gas plants would require costly storage and infrastructure upgrades.

Given the high costs and infrastructure challenges of green hydrogen, it is more prudent to reserve it for niche applications in difficult-to-abate sectors.[102] For example, current research suggests that displacing the existing use of fossil fuel-derived hydrogen in the chemicals sector is the highest value application of green hydrogen, since the infrastructure already exists and the sector cannot easily be electrified.[103] Similar logic applies to its use for heavy transport, shipping and aviation.[104] These demand categories alone will be extremely challenging to supply with adequate volumes of green hydrogen.[105] Thus, the Commission should avoid using this costly resource for incremental reductions that have no realistic path to complete decarbonization.

Additional Detail on Biomethane

With respect to biomethane, the Commission should likewise not require its use here. Pursuant to Senate Bill 1440, the Commission is considering whether or not to establish procurement mandates for biomethane, and as part of that proceeding, it is examining the cost-effectiveness of biomethane and whether such mandates comply with applicable state and federal

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[100] Lazard, *Levelized Cost of Energy Analysis*, at 2 (Oct. 2020), https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf.

[101] *See, e.g.*, BloombergNEF, *Hydrogen Economy Outlook*, at 3 (Mar. 2020), https://assets.bbhub.io/professional/sites/24/BNEF-Hydrogen-Economy-Outlook-Key-Messages-30-Mar-2020.pdf; Joan Ogden *et al*., *Natural Gas as a Bridge to Hydrogen Transportation Fuel: Insights from the Literature*, Energy Policy, Vol. 115 (Apr. 2018), https://www.sciencedirect.com/science/article/abs/pii/S0301421517308741.

[102] *See, e.g.*, Jochen Bard *et al.*, *Hydrogen in the Energy System of the Future: Focus on Heat in Buildings*, at 11 (May 2020), https://www.researchgatenet/publication/342626296HydrogenintheenergysystemofthefutureFocusonheatinbuildings; Artelys, *What Energy Infrastructure to Support 1.5C Scenarios?*, Eur. Climate Found. (Nov. 2020), https://www.artelys.com/wp-content/uploads/2020/11/Artelys-2050EnergyInfrastructureNeeds.pdf.

[103] Id.

[104] Eoin Bannon, *E-fuel would be wasted on cars while it's badly needed to decarbonise planes and ships – study*, Transport & Environment, (Dec. 7, 2020) https://www.transportenvironment.org/press/e-fuel-would-be-wasted-cars-while-it%E2%80%99s-badly-needed-decarbonise-planes-and-ships-%E2%80%93-study.

[105] Eoin Bannon, *E-fuel would be wasted on cars while it's badly needed to decarbonise planes and ships – study*, Transport & Environment, (Dec. 7, 2020) https://www.transportenvironment.org/press/e-fuel-would-be-wasted-cars-while-it%E2%80%99s-badly-needed-decarbonise-planes-and-ships-%E2%80%93-study.

laws. The Commission should not introduce biomethane as an option here without even this basic knowledge. Furthermore, as Sierra Club has explained in its comments, there are numerous problems with using biomethane for electricity production.[106]

First, much of the biomethane currently in the market lacks environmental integrity. There is no way to ensure that it results in any greenhouse gas reductions compared to fossil gas. Indeed, there is a significant risk that it can be used to "greenwash" fossil gas and distract decision makers from taking measures necessary to actually reduce GHGs such as the retirement of gas plants and building electrification.

Second, certain sources of biomethane such as dairy confined animal feeding operations contaminate air and water and disproportionately burden disadvantaged communities with harmful pollution. The Commission acknowledged this impact when it considered the Sempra Utilities' proposal to introduce a voluntary biomethane tariff.[107]

Third, the combustion of biomethane itself may in certain circumstances be more polluting than fossil gas. The Commission's own analysis indicates, for example, that biogas facilities emit higher levels of SO2.[108] Further analysis is needed to understand this potential pollution increase, especially because many gas plants are located in disadvantaged communities and because the Commission has a statutory obligation in this proceeding to minimize criteria pollutant emissions with an early priority for DACs.[109]

Fourth, biomethane has limited availability, and like "green" hydrogen should only be used in difficult-to-electrify sectors. California's population-weighted share of biomethane supply is estimated to be around 3% of its current fossil gas use.[110] The national supply of

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[106] *See* Sierra Club, Scoping Comments on Assigned Commissioner's Scoping Memo and Ruling Opening Phase 4 of Rulemaking in R.13-02-008, (Jan. 10, 2020).
[107] Decision Adopting Voluntary Pilot Renewable Gas Tariff, A.19-02-015 (Dec. 22, 2020) p. 37, ("Information provided by [Sierra Club and Leadership Counsel for Justice and Accountability] clearly establishes that many communities in the vicinity of dairies are already disproportionately burdened by environmental pollution, and community members feel strongly that developing RNG at dairies will perpetuate their adverse environmental impacts on the local community, may allow dairies to continue causing pollution (other than GHG emissions) and may facilitate expansion of dairies, even increasing the local environmental burdens.").
[108] Energy Division, Updated Criteria Pollutant Analysis (Feb. 20, 2020), ftp://ftp.cpuc.ca.gov/energy/modeling/CriteriaPollutantAnalysisUpdate_20200221.pdf, Slide 6-7.
[109] Cal. Pub. Util. Code § 454.52(I).
[110] Jimmy O'Dea, "The Promises and Limits of Biomethane as a Transportation Fuel" (May 2017) Figure 1, at 2 https://www.ucsusa.org/sites/default/files/attach/2017/05/Promises-and-limits-of-Biomethane-factsheet.pdf.

genuine waste methane—i.e. methane from landfills or wastewater treatment plants that do not have methane control—is less than 1% of U.S. gas demand.[111] Beyond this, biomethane either comes from sources like landfills that would otherwise flare the methane, or from the intentional production of methane using inputs such as biomass. Because of the high probability of additional methane leakage from these sources,[112] use of such forms of biomethane could offset any potential climate benefit from its use and should be avoided. Thus, the small amount of genuine waste biomethane should be reserved for applications where emissions are hardest to abate—such as industrial processes that currently cannot be electrified. The Commission should therefore not require biomethane use here.

15. Comment on whether firm imports should be allowed to count towards the required capacity proposed in this ruling, and if such resources should be required to be committed to California via pseudo-ties or dynamic scheduling. Include any other limitations you would propose.

Firm imports should be allowed to count toward the required capacity.

Need Allocation to LSEs

16. Comment on the appropriate way to handle allocation of responsibility to LSEs for purposes of the reliability capacity needs identified in this ruling. The approach proposed here corresponds to "Need Allocation – Specific – Option 2" in Section 7.1 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Staff Proposal.

In addition to specifying which LSEs should procure resources, the Commission should specify where at least some of that procurement should occur. The Commission has an unprecedented opportunity in this proceeding to direct local resource procurement in such a way to help phase out reliance on natural gas facilities and eventually phase out reliance on the Aliso Canyon gas storage facilities. The only way that these larger goals will be achieved is by planning now to target procurement to the local areas that rely on those resources.

17. Comment on the best way to handle load migration during the period of a Commission order and the online dates proposed in this ruling. If you support the concept of using a PCIA approach, what vintage dates should apply?

We reserve the right to respond in reply.

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[111] Emily Grubert, At Scale, Renewable Natural Gas Systems Could be Climate Intensive: The Influence of Methane Feedstock and Leakage Rates, Envtl. Research Letters (2020) (in press), https://doi.org/10.1088/1748-9326/ab9335.

[112] Emily Grubert, At Scale, Renewable Natural Gas Systems Could be Climate Intensive: The Influence of Methane Feedstock and Leakage Rates, Envtl. Research Letters (2020) (in press), https://doi.org/10.1088/1748-9326/ab9335.

Need for Backstop Procurement and Associated Cost Allocation

18. Comment on the proposal that non-IOU LSEs may not opt out of self-providing their share of new capacity found to be needed for long-term reliability. This corresponds to the "Procurement Entity – Self Provision – Option 2" in Section 7.2.2 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Staff Proposal.

We reserve the right to respond in reply.

19. Comment on the proposed mechanism for backstop procurement, which corresponds to "Procurement Entity – Type – Option 1" in Section 7.2.2 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Staff Proposal.

We reserve the right to respond in reply.

20. If the IOUs are required to act as central procurement entities, for geothermal, long-duration storage, or backstop procurement in general, what requirements should be associated with the operating arrangements for those resources? Comment on issues and options explored in Section 7.2 of the Procurement Framework Staff Proposal.

Before determining the framework of procurement for large resources, the Commission should ensure that all LSEs have an opportunity to procure resources such as geothermal and long-duration storage. A number of CCAs have formed a joint procurement authority to enable smaller CCAs to procure larger resources such as long-duration storage and geothermal.

If IOUs act as the central procurement entity for some of the procurement, the Commission should ensure that the IOUs conduct outreach to local communities and minimize air emissions with a priority for DACs consistent with statutory requirements and Commission precedent.[113] The Commission should further ensure a preference for projects which provide an environmental and economic benefit to environmental justice communities. This requirement is consistent with Public Utilities Code requirement that investor owned utilities "give preference to renewable energy projects that provide environmental and economic benefits" to environmental justice communities and not actively seek new gas generation in communities suffering from a high cumulative pollution burden.[114]

21. Section 7.2 of the Procurement Framework Staff Proposal puts forward Commission staff recommendations for procurement and operating entity direction during Phase 1. Comment on whether you agree with the recommendations, to the extend not already addressed by your responses to the questions above, in the context of the procurement proposed in this ruling.

[113] See SB 350; D.18-02-018.
[114] Cal. Pub. Util. Code §§ 399.13(a)(7), 454.5(b)(9)(D).

Please see response to Question 20 above.

22. Comment on whether the D.19-11-016 modified CAM proposed cost allocation is sufficient for purposes of the backstop procurement proposed in this ruling, or if you recommend a different approach, fully describe it along with your rationale.

We reserve the right to respond in reply comments.

Approval Process

23. Comment on the approval process that should be used for the IOU procurement that would be required as suggested in this ruling, which corresponds to "Procurement Approval – Option 2" in Section 8.2 of the Procurement Framework Staff Proposal. If you have an alternative proposal, describe it in detail and/or identify whether it is one of the other options included in the Staff Proposal.

The Commission should require applications for any proposed contract with gas and biofuel facilities in addition to the requirements stated in response to Question 15. These type of facilities are likely to negatively impact disadvantaged communities, and community members need a process to ensure that their concerns can be addressed.

In addition, we request that the Commission require a preference for resources that provide environmental and economic benefits to low-income and disadvantaged communities. California law also requires a prioritization for low-income and disadvantaged communities. For example, Section 399.17 requires utilities to give preference to renewables procurement that provides economic or environmental benefits to communities afflicted by low-income and high unemployment or high emissions. Another section of the code requires utilities to maximize both gas and electric savings in disadvantaged communities.[115] The Code also describes how creating high-quality jobs or other economic benefits in DACs is a ratepayer benefit.[116] The Commission has also recognized the need for programs targeting disadvantaged communities. For example, D.17-12-003 allocated funding for pilots after the straw proposal identified the need to develop DR strategies that reduce generation in DACs and provide economic benefits.

Furthermore, as described above, we request that procurement requests include calculations of both expected GHG and air quality impacts, and that the Commission ensure that LSEs have a preference for siting resources in the LA Basin and San Joaquin Valley.[117]

24. Section 8 of the Procurement Framework Staff Proposal puts forward staff recommendations for the procurement approval processes during Phase 1. Comment on whether you agree with

[115] Cal. Pub. Util. Code §§ 454.55(a)(2), 454.56(d).
[116] Cal. Pub. Util. Code § 740.8.
[117] See *supra* pp. 9-15.

the recommendations, to the extent not already addressed by your response to the question above, in the context of the procurement proposed in this ruling.

We reserve the right to respond in reply comments.

Methods of Compliance

25. Comment on whether marginal or average ELCCs should be used for counting LSEs' procurement and assessing compliance with the procurement requirements proposed.

It is not clear that ELCC is the right metric given the changes being considered in the Resource Adequacy docket to move to a construct that focuses on hourly needs rather than peak needs. In addition, ELCC fails to account for the capability of resources to charge batteries in local areas and for the need to reduce GHGs and air pollution. We believe that the Commission can and should rely on portfolios that ensure that GHG emissions and air pollution are reduced consistent with GHG and air quality requirements. A narrow focus on ELCCs does not accomplish this.

26. Comment on the proposed minimum ten-year contract requirement for new resources.

Ten-year contracts should not be required or allowed for gas or biofuel resources. California has some of the worst air quality in the country, and we should not be contracting with polluting resources at all.

27. Comment on how imports should be treated for counting and compliance purposes for the procurement proposed in this ruling.

We reserve the right to respond in reply comments.

28. Comment on whether you think that any fields in the baseline generator list need to be kept confidential when staff updates it with new in-development resources identified from the Resource Data Templates in LSE plans, as proposed to serve as the baseline for the procurement proposed in this ruling

We urge the Commission to ensure that as much information as possible is public. Under D.06-06-066, the Commission "start[s] with a presumption that information should be publicly disclosed and that any party seeking confidentiality bears a strong burden of proof."[118] This presumption considers the fact that the Commission is "a public agency that regulates public utilities, and most of [its] business must be conducted in a public forum."[119] Indeed, according to the Commission, "[a]llowing public access to documents is part and parcel of an open decision

[118] D.06-06-066, p. 2.
[119] D.06-06-066, p. 40 (citing Public Records Act, Cal Gov. Code § 6250 *et seq*., California Constitution, Article 1, § 3(b)).

making process."[120] The Commission has stated clearly that "market-sensitive" data under Section 454.5(g) of the Public Utilities Code applies to a narrow category of information "with the potential to affect the market for electricity in some way."[121] Recognizing the high risk of over-designating information as "confidential," the Commission stated that "the requirement that parties show that their data meet the criteria we establish here must have teeth."[122] It perceived that "[i]f there are no consequences of overstating the need for confidentiality, we suspect parties will simply err on the side of asking that too many documents be held under seal."[123] Therefore, "[i]n order to ensure that parties make an honest effort to prove that documents meet the various legal definitions for confidentiality," the Commission announced that it "will no longer allow parties to submit data under seal accompanied by boilerplate motions for leave to file under seal that do not address the specific documents at issue."[124] "Mere recitation of the conclusory statement that information is a trade secret, or is market sensitive procurement information, is not enough to meet the burden of proving entitlement to confidential treatment."[125] It also clarified that it intends "for parties to treat confidentiality designations with care."[126]

Thus, under Commission precedent, we encourage the Commission to ensure that as much information about procurement is available as possible. The public has a strong interest in procurement information. We further encourage the Commission to publish relevant procurement information in a transparent, accessible format.

Penalties for Noncompliance

29. Comment on whether CONE is an appropriate penalty for capacity that LSEs fail to procure, in addition to backstop procurement. This is a combination of "Enforcement – Option 1" and "Enforcement – Option 2" in Section 9.2.2 of the Procurement Framework Staff Proposal. Suggest any alternative compliance and enforcement options.

We reserve the right to respond in reply comments.

30. Section 9 of the Procurement Framework Staff Proposal puts forward staff recommendations for compliance, monitoring, and enforcement during Phase 1. Comment on whether you agree

[120] D.06-06-066, p. 40.
[121] D.06-06-066, pp. 41-42.
[122] D.06-06-066, p. 65.
[123] D.06-06-066, p. 65.
[124] D.06-06-066, pp. 65-66.
[125] D.06-06-066, p. 81.
[126] D.06-06-066, p. 65.

with the recommendations, to the extent not already addressed by your responses to the questions above, in the context of the procurement proposed in this ruling.

With respect to monitoring, we request that Staff track the procurement and its air quality and GHG impacts on an accessible webpage that will allow interested stakeholders and community members to track the procurement that is occurring. Ideally this tracking would include information about where the procurement is sited, what the procurement is, and the expected GHG and air quality impacts of the procurement.

Relationship of IRP Procurement and the Central Procurement Entity for Resource Adequacy

31. Comment on the suggested clarification to counting of capacity sold or shown to the CPE for local resource adequacy purposes.

As described above, we request that the Commission ensure that LSEs have a preference for siting resources in local areas to help displace the need for gas usage. Local procurement must be tracked and accounted for to ensure that it is as effective as possible.

Relationship with Potential Procurement Emanating from Preferred System Portfolio

32. Parties are invited to comment on or propose alternative compliance regimes to the proposals in this ruling to address the longer-term system reliability requirements identified in the IRP context.

We reserve the right to respond in reply comments.

33. Comment on any other aspects of the Phase 1 recommendations in the Procurement Framework Staff Proposal not already addressed in your responses to prior questions.

CONCLUSION

Climate change's devastating impacts are upon us and require the Commission to take immediate action. This proceeding presents a critical opportunity for the Commission to lead California into a future where the grid is reliable and clean, and where California's disadvantaged communities no longer bear the brunt of the State's polluting resources. As detailed above, the ALJ's Ruling contains numerous errors, and the Commission must correct these deficiencies to ensure compliance with State climate, air quality and equity mandates. The Commission should therefore take the following steps, among others:

1. Commit to a lower GHG target to ensure that the grid reduces harmful GHG emissions and air pollution as soon as possible. The Commission must actively lead California to a clean energy future and end our dependence on fossil fuels.

2. Ensure procurement is at least consistent with the SB 100 studies and the prior 30 MMT and 38 MMT portfolios to keep the State on a trajectory to meet GHG requirements. The Commission can best ensure consistency with GHG requirements by: (1) requiring at least 20,000 MW of procurement; (2) requiring at least 14,000 MW of that procurement from solar and wind resources; and (3) not allowing procurement of any new gas capacity.
3. Direct a significant percentage of the procurement to the LA Basin and to the San Joaquin Valley to facilitate the eventual closure of Aliso Canyon and gas facilities in the most overburdened communities.
4. Set out the requirements for how LSEs will consider GHGs, air quality, and disadvantaged communities when conducting procurement, consistent with statutory mandates.

These and other actions described above will help ensure California meets its climate and air quality goals and requirements at a critical juncture for the climate and the State's most vulnerable communities.

Dated March 26, 2021

Respectfully submitted,

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