

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

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

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

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE  
E-MAIL RULING INVITING COMMENTS ON NATURAL GAS ISSUES**

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these comments on the *E-Mail Ruling Inviting Comments on Natural Gas Issues* (“Ruling”), issued by Administrative Law Judge (“ALJ”) Julie Fitch on October 13, 2021.

**I. INTRODUCTION.**

CESA appreciates the opportunity to provide feedback on the Commission’s Staff Paper titled *Considering Gas Capacity Upgrades to Address Reliability Risk in Integrated Resource Planning* (“Staff Paper”). In general, CESA is supportive of the Commission considering the potential benefits of certain upgrades to the existing natural gas fleet, such as the hybridization of power plants with energy storage assets. As a matter of fact, CESA has consistently advocated for considering energy storage hybridization of natural gas facilities as a candidate resource in the RESOLVE capacity expansion model since hybridization provides significant benefits, from reducing on-site emissions to improving thermal fleetwide operations as well as the ability of a hybridized resource to provide reserves and other ancillary services. As such, CESA applauds the

Commission's determination to begin considering a framework to more systematically identify optimal investments.

Despite CESA's support for the hybridization of natural gas facilities, we do not consider the modeling analysis conducted in the Staff Paper represents an effective evaluation of the cost-effectiveness of the appropriate or specific upgrade investments to the existing gas fleet. In essence, CESA is concerned with the Staff Paper's use of an expedited process, confidential data, and questionable financial assumptions to support the deployment of assets that are already being developed.<sup>1</sup> As such, CESA's comments can be summarized as follows:

- Instead of the current expedited analysis, the Commission should conduct further, more transparent, and more granular analysis on whether and which gas units warrant retention and/or upgrade investment and give parties the ability to respond and provide substantial feedback.
- The Commission should not base capacity expansion modeling on confidential data, contrary to the established Integrated Resource Planning ("IRP") planning process.
- In order to unlock the potential of gas hybridization, the Commission should focus on defining it as a candidate resource in RESOLVE and identifying plants ideal for modification.
- If the Commission moves forward with this evaluation of potential gas upgrades, the assumed financing lifetime of upgrades should be no longer than 15 years.
- The Commission should not allow or require upgrades to gas facilities at this time until further analysis is completed, except for the hybridization of gas resources with energy storage as allowed for Decision ("D.") 21-06-035.

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<sup>1</sup> The Staff Paper notes that the cost information utilized was derived from 7 projects that are either in progress or complete; as such, these upgrades are decidedly moving forward regardless of the analyses included in the Staff Paper. *See* Staff Paper, at 9.

**II. THE COMMISSION SHOULD CONDUCT FURTHER, MORE TRANSPARENT, AND MORE GRANULAR ANALYSIS ON WHETHER AND WHICH GAS UNITS WARRANT RETENTION AND/OR UPGRADE INVESTMENT AND GIVE PARTIES THE ABILITY TO RESPOND AND PROVIDE SUBSTANTIAL FEEDBACK.**

As a procedural matter, CESA requests that the Commission avoid engaging in expedited commenting periods when presenting modeling to parties that could have substantial procurement implications. When the Commission requests parties to provide feedback on proposals, it is essential that staff makes key materials and data available for revision in a timely manner. As noted above, the present comments are in response to the Ruling issued on October 13, 2021, resulting in a one-week period by which parties must absorb and process the modeling inputs, assumptions, and results included in the Staff Paper, identify potential areas of feedback or concern, and provide recommendations to mitigate the risks or to direct procurement or other actions.

As a party that has been actively committed to provide substantive and technically-sound feedback to several active proceedings, CESA finds the timeline for these comments to be unreasonable. Expedited review and commenting periods in this way denies parties with the opportunity to deeply process, evaluate, and even replicate the analyses made by staff, especially on an issue that could have significant long-term implications if it leads to procurement decisions or requirements. In addition, the Commission has favored the use of RESOLVE as a capacity expansion model because, among other reasons, it eases party review and represents a tool that parties have become familiar with over time. To remedy this procedural deficiency, the Commission should share all the updated RESOLVE packages, inputs, and assumptions so that parties can perform detailed reviews and provide additional feedback. In addition, CESA believes that this type of analysis warrants further review of inputs and assumptions, more granular follow-up study to identify the type of gas units and upgrades as well as resulting cost/GHG impacts, and contextualization of the role of the current thermal fleet based on policies set in the relevant

proceedings, such as Gas Planning (R.20-01-007), Aliso Canyon (I.17-02-002), and those related to the use of renewable fuels. In doing so, the Commission will not only consider the immediate cost considerations for capacity expansion but also the risks of stranded investments.

Engaging in a more thorough and transparent consideration of the different upgrade alternatives would allow the Commission to consider a more diverse set of potential enhancements. As an example, staff should evaluate the cost and benefits of potentially hybridizing combustion turbines (“CTs”), not only combined cycle gas turbines (“CCGTs”), as currently scoped. This upgrade might be relevant particularly in constrained local areas with narrowly defined ramping and peaking needs – an application for which slower CCGTs could be suboptimal. This recommendation represents only an example that demonstrates how, by engaging in a more robust process to define the potential upgrade candidate resources, the Commission could avoid prescribing the potential solution set.

### **III. THE COMMISSION SHOULD NOT BASE CAPACITY EXPANSION MODELING ON CONFIDENTIAL DATA, CONTRARY TO THE ESTABLISHED IRP PLANNING PROCESS.**

The Staff Paper describes how the analysis for potential upgrades at existing gas plants was performed by creating three new candidate resources for RESOLVE to select, representing a low-cost, high-cost, or very high-cost upgrade. Notably, it is unclear how each of these upgrades relates to the options to increase gas plant capacity discussed in the Staff Paper.<sup>2</sup> In fact, the lack of explanation regarding the construction of these candidate resources can be largely attributed to the fact that the inputs and assumptions used for their design are drawn from confidential sources.

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<sup>2</sup> Staff paper, at 7-8.

This represents a significant departure from the established process for all IRP planning and modeling.

Since the inception and throughout the evolution of the IRP process, the Commission has underscored the importance of utilizing cost assumptions that are available publicly in an effort to bolster the transparency and robustness of its analyses.<sup>3</sup> In fact, the lack of publicly available data regarding cost assumptions has been cited by the Commission and parties to this proceeding as sufficient reason to stall the inclusion of new candidate resources, such as long duration energy storage (“LDES”) and solar photovoltaic (“PV”) plus storage hybrids,<sup>4</sup> even though such information could be confidentially provided in a similar way to support their inclusion. CESA generally supports the use of publicly-available data as it ensures a fair and consistent treatment of modeled resources as well as a transparent representation of their cost-effectiveness. As such, we request the Commission staff refrain from using confidential data and update the analyses included in the Staff Paper using publicly-available sources and clearly identifying what sort of upgrades are scoped into each of the newly modeled candidate resources. CESA offers specific recommendations on this point in the following section.

**IV. IN ORDER TO UNLOCK THE POTENTIAL OF GAS HYBRIDIZATION, THE COMMISSION SHOULD FOCUS ON DEFINING IT AS A CANDIDATE RESOURCE IN RESOLVE AND IDENTIFYING PLANTS IDEAL FOR MODIFICATION.**

In prior comments to this proceeding and its predecessor, CESA has advocated for the Commission to proactively consider the role of gas-plus-storage hybrids in a grid with increasing

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<sup>3</sup> Energy Division, *Inputs and Assumptions: 2019-2020 Integrated Resource planning*, February 2020, at 4.

<sup>4</sup> Currently, LDES is only modeled by proxy using pumped hydro storage availability and cost assumptions. Moreover, hybrid assets are not modeled as candidate resource with distinct operational characteristics from their standalone counterparts.

flexibility requirements and progressively more stringent emission targets. To do so, CESA has recommended integrating gas-storage hybrids as candidate resources in RESOLVE to identify optimal hybridization opportunities. In January 2019, within R.16-02-007, CESA strongly urged the Commission to update its proposed IRP methodology to include hybridization of existing gas-fired resources as a candidate resource.<sup>5</sup> Since then, CESA has highlighted that hybrid gas-plus-storage resources are not a hypothetical future technology; it has been installed and is currently operating at multiple locations on California’s grid.<sup>6</sup> The inclusion of these hybrids as a candidate resource could additionally provide insights regarding the benefits of locating capacity in constrained areas, an issue that the Commission has indicated a growing interest in within the Ruling regarding the proposed Preferred System Plan (“PSP”). In line with the intent and objectives of the Staff Paper, the hybridization of existing gas facilities represents a readily-available and low-cost upgrade option that should be specifically modeled as part of any analysis.

As such, CESA recommends the Commission considers incorporating gas-storage hybrids as a candidate resource based on publicly available cost assumptions and a transparent definition of the inputs utilized. Moreover, the Commission should utilize this candidate resource as means to identify specific areas or power plants where hybridization investments would be cost-effective and socially optimal.

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<sup>5</sup> CESA, *Comments of the California Energy Storage Alliance to the Administrative Law Judge’s Ruling Seeking Comments on Inputs and Assumptions for the Development of the 2019-2020 Reference System Plan*, filed under R.16-02-007 on January 4, 2019, at 16.

<sup>6</sup> CESA, *Comments of The California Energy Storage Alliance On The Proposed Decision And Alternate Proposed Decision Requiring Procurement To Address Mid-Term Reliability (2023-2026)*, filed under this proceeding on June 10, 2021, at 10.

V. **IF THE COMMISSION MOVES FORWARD WITH THIS EVALUATION OF POTENTIAL GAS UPGRADES, THE ASSUMED FINANCING LIFETIME OF UPGRADES SHOULD BE NO LONGER THAN 15 YEARS.**

Using confidential data sources, staff derived an estimate of annualized cost impacts of the different candidate upgrades considered. The Staff Paper describes how confidential data sources are used to derive an estimate of annualized cost impacts of the different candidate upgrades and to set the upper bound of the financial lifetime assumption as 25 years. Considering Senate Bill (“SB”) 100 calls for the complete decarbonization of all retail electricity sales by December 31, 2045, this is not a reasonable assumption since it is highly plausible that upgrades to existing natural gas facilities would need to be fully financed in the next 15 years, not the next 25 years.

CESA understands that some parties, including the Commission, may argue that a 25-year financing lifetime is adequate considering the fact that the IRP modeling and the 2021 SB 100 Joint Agency Report show most of California’s natural gas capacity is retained for the foreseeable future, even when complying with SB 100. While natural gas assets will continue to play a significant role in preserving the reliability of the grid in coming years, these results are due to the RESOLVE model’s severely limited ability to optimally select energy-limited assets due to its time horizon constraints. As such, the assumption that most, if not all, of the natural gas assets will need to be retained should be taken with a grain of salt. As such, CESA recommends that if the Commission staff continues with this evaluation and modifies all necessary assumptions as noted in prior sections, it should assume a financing lifetime of no more than 15 years.



**VI. THE COMMISSION SHOULD NOT ALLOW OR REQUIRE UPGRADES TO GAS FACILITIES AT THIS TIME UNTIL FURTHER ANALYSIS IS COMPLETED, EXCEPT FOR THE HYBRIDIZATION OF GAS RESOURCES WITH ENERGY STORAGE AS ALLOWED FOR D.21-06-035.**

The Staff Paper acknowledges that the California Energy Commission (“CEC”) Mid-Term Reliability Analysis found no need to procure incremental gas capacity and found the clean generation and storage procurement directed through D.21-06-035 would meet the 0.1 loss-of-load expectation (“LOLE”) reliability standard. Yet, despite these results, the Staff Paper discusses various factors that could still pose reliability risks in the medium term, such as the economic or age-based retirement of some older, less-efficient gas units and the threat of battery storage supply chain disruptions.<sup>7</sup> However, CESA does not believe that these issues or perceived risks have been sufficiently and transparently substantiated in this proceeding to the degree that procurement of gas capacity upgrades should be allowed or are deemed necessary.

Beyond the questions with the modeling analysis and the issues with the expedited process referenced above, CESA believes that the Commission should instead focus its efforts on expediting and streamlining the deployment and interconnection of clean generation and energy storage resources and removing any identified barriers. While battery storage supply chains are tight in the near term and referenced in the Staff Paper as a risk factor, manufacturers are quickly expanding their manufacturing capacities from now through 2026 to meet the global rise of the energy storage market, such that these issues may be moot in a year or two as battery supplies increase and are typically sourced by developers closer to the commercial online date. It is also important to note that supply chain disruptions or constraints are not just limited to battery storage but to other relevant equipment (*e.g.*, transformers) and to other non-energy sectors. This is a

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<sup>7</sup> Staff Paper at 4 and 15.

global issue, so supply chain concerns as it applies only to battery storage is an unfair and narrow determination unless assessed for all resource types. The real risks are not with supply chains but with interconnection of new clean generation and energy storage resources, as well as with the timely construction of network upgrades. Even assuming *arguendo* that battery supply chains pose risks, the Commission should not narrowly limit the scope of solutions to gas capacity upgrades but to consider other diversification and feasible solutions, such as demand response (“DR”), behind-the-meter (“BTM”) energy storage, and non-battery storage resources. Furthermore, in the face of potential gas retirements, CESA contends that the appropriate place to address gas capacity retention questions is through the Resource Adequacy (“RA”) Program, or through short-term contracts such as done authorized in D.19-11-016.

Given our questions about the process and contents of the analysis, as well as the lack of sufficient substantiation on the ability of clean generation and storage resources to meet the mid-term reliability need, CESA does not see sufficient basis to allow or require incremental gas capacity upgrades at this time pursuant to D.21-06-035, with the exception of energy storage hybridization with existing gas facilities, which is already explicitly authorized and allowed.<sup>8</sup>

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<sup>8</sup> See Energy Division Frequently Asked Questions (“FAQ”) document: “2.1 Is new storage added to existing natural gas plants eligible? Yes, except for the 1,000 MW of firm zero-emissions category, and the 2,500 MW of zero-emissions generation, generation paired with storage, or demand response procurement category. This is based on staff not seeing, for the remainder of the procurement, the decision placing any restrictions on how storage is charged. However, some storage added to existing natural gas plants has not always increased the available resource adequacy from that location – instead it has been used to offer natural gas plants a cleaner way to operate. Storage at a gas plant should be providing incremental NQC to be eligible.

2.2. Could you confirm that the incremental storage must be contracted separately from the underlying gas generation asset, which the decision has deferred on their eligibility for IRP procurement compliance? The storage may be contracted separately or concurrently with the gas asset. However, only capacity added as storage will be considered in compliance with D.21-06-035. Any expanded or contracted gas capacity will not count toward an LSE’s D.21-06-035 procurement obligation”

[https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/d2106035\\_faq\\_20210824.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/d2106035_faq_20210824.pdf)

Further analysis is needed to more granularly understand the retention or reinvestment in the right gas resources that are needed for reliability while maintaining consistency with the state's long-term decarbonization goals and policy determinations to be made in R.20-01-007, I.17-02-002, and others.

**VII. CONCLUSION.**

CESA appreciates the opportunity to submit these comments to the Ruling and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Noh', written in a cursive style.

Jin Noh  
Policy Director

Date: October 21, 2021