BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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COMMENTS ON THE ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON RELIABLE AND CLEAN POWER PROCUREMENT PROGRAM ("RCPPP") STAFF PROPOSAL

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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 Administrative Law Judge's ("ALJ") *Ruling Seeking Comments on Reliability and Clean Power Procurement Program Staff Proposal* ("Proposal"), issued on April 29, 2025. These comments are filed in accordance with the ALJ's *Email Ruling Granting Request for Extension of Time*, filed May 15, 2025, granting the request for extension of time to file comments on the Proposal to July 15, 2025 and reply comments on the Proposal to August 5, 2025.

I. Introduction

CESA appreciates the opportunity to provide input on the RCPPP Proposal. CESA recognizes the importance of achieving a reliable and decarbonized electric grid and is very impressed with Energy Division's efforts to establish a holistic framework to meet these objectives. Recognizing that good policy development cannot be achieved in a vacuum, CESA is very appreciative of Energy Division's openness to accept feedback on its proposal. CESA respectfully submits the following comments.

CESA urges the Commission to work diligently to timely complete and implement the RCPPP. There are a substantial sum of Cluster 14 projects that must retain deliverability through executed contracts in 2026, if they are to remain economically viable to achieve commercial operations. Additionally, recent federal actions, including changes to the Inflation Reduction Act and new restrictions on the use of foreign-sourced equipment, demonstrate for a stable procurement signal in California as soon as possible. If a finalized RCPPP design and an RCPPP need assessment is delayed beyond Q1 2026, an interim procurement order may need to be considered by the CPUC.

In ***Section II***, CESA discusses a straightforward approach to reliability within the RCPPP framework, supporting the Integrated Resource Planning ("IRP") process' core objective to get new resources built as needed using a marginal Effective Load Carrying Capability ("ELCC") accreditation approach. CESA discusses how a contracting status approach, similar to Reliability Option I, supports new resource development including orderly repowering and augmentation of existing resources as well as the importance of a 100% contracting requirement well in advance of the compliance year. Finally, CESA provides an alternative proposal focused on new resource development including repowering/augmentation along with a timeline for 100% contracting by T+4.

- In ***Section II.A***, the purpose of the IRP process is to get new resources built as needed, requiring simplicity and clarity in market design
- In ***Section II.B***, in stark contrast to Slice-of-Day accreditation, marginal ELCC accreditation provides a proven, clear, and fungible accounting to support new resource development and should be used for reliability compliance in RCPPP

- In ***Section II.C,*** adding an advance 100% contracting requirement to the new-only procurement structure is needed to efficiently coordinate repowering/augmentation, de-risk development, and better coordinate between CPUC/CAISO processes. CESA discusses the following elements of an efficient new-only procurement structure:
    - In ***Section II.C.i***, evaluating contract status in developing the baseline supports new resource development including orderly repowering and augmentation signals
    - In ***Section II.C.ii***, longer contracting lead times are needed
    - In ***Section II.C.iii***, non-compliance with the RCPPP reliability contracting requirement must be penalized at net Cost of New Entry ("CONE") to ensure incentive alignment
    - In ***Section II.C.iv***, Commercial Online Date ("COD") requirements are not needed in the RCPPP framework and would cause LSEs to incur duplicative penalties
- In ***Section II.D***, resource retention signals should remain contained within the Resource Adequacy ("RA") program
- In ***Section II.E***, CESA provides an alternative proposal focused on new resource procurement only (including repowering and augmentation)
- In ***Section II.F***, longer-term, the Commission should holistically consider local capacity area issues and identify the role for a more granular clean resource accounting

In ***Section III***, CESA discusses a straightforward approach to GHG reduction compliance leveraging the existing Power Source Disclosure Program's ("PSDP") hourly matching accounting because of its accuracy in accounting for energy storage's contribution to emission reductions.

- In ***Section III.A***, the clean content accounting must be corrected to ensure accurate resource development signals to achieve a reliable and clean resource fleet
- In ***Section III.B***, the non-compliance penalty must be set so that the cost of compliance is greater than the cost of contracting for new resource development

Finally, in ***Section IV***, CESA provides answers to relevant Energy Division Staff questions

II. Approach to Reliability

A. The Purpose of the IRP Process is to Get New Resources Built As Needed, Requiring Simplicity and Clarity in Market Design

Given that the IRP process' core mission is to get resources built as needed to achieve California's electricity goals, it is paramount that the IRP process sends simple and clear procurement signals in the forward planning space. The Commission must seek to avoid unwarranted additional friction in the forward planning space as much as possible.

The IRP process models optimal future electricity resource portfolios to achieve state policy goals and is intended to ensure sufficient new resources are developed for a reliable, affordable, and clean electric grid. The RCPPP must be structured to provide simple and clear new resource procurement signals to the market so that the correct mix of new resources are developed at the system level to meet reliability and clean content goals. Once resources are developed or under development, the RA program will operationalize the built fleet and continue to provide the appropriate signal for resource retention as needed.

The RCPPP, as an evolution of the CPUC's previous "order-by-order" approach, is designed to create and administer a long-term procurement framework for California's electricity supply. A core purpose of the IRP process, which informs RCPPP, is to ensure sufficient new resources are developed to meet the state's reliability and greenhouse gas ("GHG") reduction goals at the least cost. Given this critical role in signaling for and driving new resource build, it is paramount that the RCPPP is structured with simplicity, clarity, and product fungibility to provide effective procurement signals and foster investment in the necessary resources for a reliable, affordable, and clean electric grid.

In contrast, the RA program serves a distinct but complementary role, primarily focused on the near-term. The RA program is responsible for operationalizing the built fleet, ensuring that Load-Serving Entities ("LSEs") have contracts for capacity and convey this capacity to the California Independent System Operator ("CAISO") to ensure the contracted capacity has a Must Offer Obligation ("MOO") for operational reliability. This operational emphasis means the RA program is the most appropriate place to manage decisions regarding the retention of existing resources, allowing the IRP process to concentrate on the long-term planning, procurement, and development of new resources needed for future reliability and decarbonization.

B. In Stark Contrast to Slice-of-Day Accreditation, Marginal ELCC Accreditation Provides a Proven, Clear, and Fungible Accounting to Support New Resource Development and Should Be Used For Reliability Compliance in RCPPP

The marginal ELCC accreditation approach allows for accurate price signals and efficient investment incentives. It is crucial for sending price signals that accurately reflect resources' reliability contributions during periods of tight supply. It recognizes the diminishing returns of resources with correlated availability and the value of adding complementary resources that enhance reliability. By doing so, marginal ELCCs provide efficient incentives for investment decisions, including avoiding the over-saturation of a particular technology, encouraging the investment in diverse and complementary resources, facilitating the efficient pairing of storage with intermittent resources, guiding the efficient selection of storage project durations, and incentivizing investment in resources that provide reliability during critical periods, thus encouraging a more diverse and balanced resource mix, including storage resources to complement intermittent renewables.

The Commission recognizes the importance of accurately reflecting resource reliability value in its processes/programs. The Commission and its staff have traditionally evaluated resource reliability value by determining a resource's ELCC. The Commission has accepted the use of marginal ELCC values as a basis for establishing its Preferred System Plan ("PSP").[1] Further, Energy Division has recognized the benefit of using any ELCC approach is that the metric captures each resource's contribution to system reliability across a wide range of system conditions, captures saturation effects that cause declining reliability values within a resource type, captures interactive effects between different resource types, and inherently captures both capacity and energy constraints.[2] Energy Division further recognized that if the system becomes too energy constrained to charge energy storage resources, then after Loss of Load Probability ("LOLP") modeling is performed to update the resource counting compliance metrics, the marginal ELCC of storage will decline and the marginal ELCC of energy-providing resources (such as solar and wind) will begin to increase.[3] Energy Division has concluded that from a technical reliability planning perspective, a separate energy-based requirement would be redundant.[4] The Commission's IRP modeling heavily relies on use of ELCC values with a focus on resource reliability value[5] and it previously found that "[c]alculating the system reliability benefits of specific resources will be more accurate if marginal ELCCs are used"[6] in its Mid-Term Reliability ("MTR") compliance assessments. Although the Commission has been clear that it is not necessary for both the IRP proceeding and the RA program to utilize the same methodologies, it

[1] D.24-02-047, Finding of Fact #25
[2] Reliable and Clean Power Procurement Staff Options Paper, CPUC Energy Division, September 2022, pg. 18
[3] *Id.*
[4] *Id.*
[5] Inputs & Assumptions, 2022-2023 Integrated Resource Planning (IRP), October 2023
[6] D.21-06-035, Finding of Fact #25

must recognize the importance of accurately accounting a resource's reliability value in its processes.

ELCC capacity accreditation methodologies, originally introduced by L.L. Garver in 1966, are well-established and well-vetted by the U.S. electric industry and the Federal Energy Regulatory Commission ("FERC"). ELCCs or ELCC approximations are used for capacity accreditation in PJM, MISO, SPP, NYISO, and in the Western Resource Adequacy Program. Additionally, ISO-NE is exploring the use of marginal ELCC in its capacity market reform efforts. Furthermore, many utilities across the Western Interconnection use ELCC in their IRP planning efforts.

ELCC capacity values signal the relative reliability value between different resource types and constitute a clear fungible capacity product to be procured by LSEs. Under an ELCC-based procurement framework, each LSE values each MW of each resource type equal to the reliability value those resources provide the system operator. The forward procurement signal to get new resources built is clear, uniform, and aligned with system reliability value.

Slice-of-day resource accounting is incomplete, unproven, creates market friction, and is too costly to be applied in the IRP process. During the June RCPPP workshop,[7] some parties discussed the potential to use slice-of-day accounting in RCPPP. As it stands, the novel slice-of-day framework remains incomplete even in its current application to the RA program. After several years of development, there remains continued uncertainty due to the continued delay in establishing clear and uniform LDES/Multi-Day Storage charging sufficiency requirements and accreditation, putting LDES at an unfair competitive disadvantage under the framework. The

[7] Two-day workshop on RCPPP, June 23-24, 2025.

accuracy of the novel implementation of the exceedance methodology for variable energy resources has been debated since its creation.[8] Transactability issues related to the granularity of the product not equaling the granularity of the requirement also remain, costing ratepayers upwards of $180M per year.[9] The slice-of-day framework also introduced considerable friction into the RA marketplace due to its non-fungible resource counting methodology. For instance, energy storage resources are assigned an ambiguous and non-uniform qualifying capacity value[10] that inequitably reduces their transactability, while all non-storage resources enjoy unambiguous and uniform qualifying capacity values. Under the slice-of-day framework, an energy storage resource's qualifying capacity value is dependent not only on the physical attributes of the energy storage facility (e.g. round-trip efficiency, duration, etc.), but also the make-up of an individual LSE's RA portfolio. The ambiguity is further compounded by the fact that the precise calculation of the qualifying capacity value is buried in the implementation of the RA showing template and user guide. These issues are compounded by the fact that energy storage resources have a qualifying capacity value that is not equal to their system reliability value (as could be calculated with an ELCC), which sends inaccurate procurement signals to LSEs. Considerable market friction would follow in the new resource development space if an LSE would pass on procurement of a resource that provides system reliability value because it does not perfectly fit its individual portfolio. Such procurement signals are not clear and uniform, resulting in a non-fungible product.

If the Commission were to apply the novel slice-of-day framework into the IRP process, there will be several unforeseen design issues to resolve that have already been well-vetted under

[8] ACP-CA Track 2 Proposal, June 14, 2024.
[9] Andrew Mills (CalCCA), April 16, 2025, "Effective Mechanisms for Slice-of-Day RA Trading"
[10] Under RA's slice-of-day framework, energy storage is the only resource type where its qualified capacity is not known by the market prior to negotiations due to its dependence on the other resources in each LSE's portfolio (ambiguous) and is not the same across all LSEs (non-uniform).

the ELCC methodology. For instance, the slice-of-day need allocation is based on each LSE's hourly load shape, which is more difficult to forecast further into the future in part due to risks around load migration and electrification progress. Extending this accounting further than 1 or 2 years at most would exacerbate these risks creating greater challenges for LSEs.

C. Adding An Advance 100% Contracting Requirement to the New-Only Procurement Structure is Needed to Efficiently Coordinate Repowering/Augmentation, De-Risk Development, and Better Coordinate Between CPUC/CAISO Processes

To send the necessary early and clear signals for new resource development, ensure market certainty, and de-risk the financing and construction of projects, it is imperative to move towards a more robust and aggressive forward contracting requirement. There is currently a dearth of demand for queued projects and without contracts, many projects are at risk of losing deliverability and potentially never achieving commercial operations. Steady and thoughtful contracting requirements through the RCPPP are needed to avoid significant swings in capacity supply and demand balance year over year. Given the lead times for development and interconnection, CESA proposes that the RCPPP adopt a 100% contracting requirement by T+4. This clear and definitive signal would provide LSEs and developers with the certainty needed to proactively invest in and develop the reliable and clean resources essential for California's future grid.

i. Evaluating Contract Status In Developing The Baseline Supports New Resource Development Including Orderly Repowering and Augmentation Signals

To enhance the fairness, efficiency, and clarity of RCPPP compliance, CESA proposes that the IRP process transitions from a "New/Existing" baseline method to a "Contract Status" baseline

method for assessing LSE procurement.[11] This approach would exclude all uncontracted existing resources from the baseline, therefore creating the need for new resource development, repowering, and augmentation. The contract status approach supports development of new resources to replace resources that are on retirement watch for not having an advance contract. Furthermore, it supports repowering, augmentation, or replacement of resources as they come off contract. Critically, adopting a contract status baseline avoids problematic "deadline cusp" issues and debates about repower definitions that complicate current baseline methods. This direct approach ensures collective action to drive new resource development and support repower decision-making. Importantly, under this contract status approach, only contracts for new resource development (including repowering and augmentation) are eligible to meet the RCPPP new resource requirements.

In the year in which the Energy Division performs its RCPPP study for compliance year T+0, the following resources will be considered "existing uncontracted" resources and removed from the baseline:

(1) all resources that have given notice to CAISO to retire prior to the Summer of the compliance year, and

(2) all resources that do not have a contract extending over the summer of T+2 and beyond

All "existing uncontracted" resources will be removed from the baseline, thus increasing the need for new resource development (including repowering and augmentation). This timing would provide sufficient time for repowering and augmentation projects to be contracted and

[11] "Contract Status" refers to whether a resource has an RA contract or a bundled RCPPP/RA contract.

developed prior to the compliance year, assuming the repowering and augmentation development could take up to 3 years to complete.

ii. Longer Contracting Lead Times Needed

Reliability Option 1 outlines specific forward contracting requirements for LSEs to ensure reliability. Under this option, LSEs must demonstrate procurement through executed offtake contracts, showing 100% of their required procurement for year T+2, 75% for year T+3, and 50% for year T+4. Years T+0 (current year) and T+1 (next year) are not subject to compliance obligations, as these are covered by the existing month-ahead and year-ahead RA program requirements.

Regardless of what option is selected, Option 1, Option 2, or a hybrid, a robust forward contracting requirement is paramount because it de-risks project development and aligns with critical processes at the CAISO. Project developers often need contracts at least three years in advance of a COD to ensure cost-efficient project development and timely construction, as significant investments like equipment procurement and construction contracting require two to three years of lead time. Without an executed contract, these investments are unlikely to occur, posing a substantial barrier to new resource build.

Addressing the critical need for alignment between the RCPPP and the CAISO processes, it's evident that longer lead times for contracting are essential given current interconnection, network upgrade, and deliverability allocation challenges. Projects in the CAISO interconnection queue typically must wait over five years, sometime stretching to nearly 10 years, for the necessary network upgrades to be completed before the project can come online. However, the Transmission Plan Deliverability ("TPD") allocation process requires a Power Purchase Agreement ("PPA") to receive full capacity deliverability status, which is needed for Resource Adequacy projects. LSEs

will need to procure new resources *at least* 3-4 years in advance to support the viability of projects in the CAISO interconnection queue, or the resources are at risk of being forced to withdraw due to the misalignment on contracting timing. Queue data shows that getting from an executed interconnection agreement to commercial operations tends to take substantially longer in CAISO compared to other regions, up to 60+ months, with solar plus battery projects taking a median of approximately 42 months.[12]

The RCPPP can support long lead-time Long Duration Energy Storage ("LDES") development by publishing advisory ELCC values for T+10 through T+5. Having an annually updated advisory ELCC far in advance of the procurement period would help send procurement signals to long lead-time LDES resource developers. CESA stresses that a 4-year advance requirement still may not be sufficient to support long lead-time LDES development. These resources typically require more time for resource development than conventional, short-duration energy storage resources (like most lithium-ion battery projects). Many LDES technologies, such as advanced compressed air energy storage ("A-CAES"), certain flow batteries, thermal storage, hydrogen, and gravity-based systems, are still in earlier stages of commercialization compared to mature lithium-ion batteries. This means more time is needed for research and development, pilot projects, and scaling up manufacturing. Building out LDES technologies often requires establishing entirely new manufacturing capacities and supply chains for novel battery chemistries or specialized components. This involves substantial capital expenditure and time to secure raw materials, build factories, and train a skilled workforce.

[12] *See* "Queued Up: 2024 Edition Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2023," Lawrence Berkeley National Laboratory, April 2024, slides 40-44.

iii. Non-Compliance With the RCPPP Reliability Contracting Requirement Must Be Penalized at Net CONE to Ensure Incentive Alignment

Given IRP's focus on ensuring new resource development, its penalty structure must ensure contracting for efficient new resource development is less costly than the cost of non-compliance. This necessitates a penalty at a transparent and up-to-date net CONE value. As net CONE increases or decreases year to year, the penalty value must follow. As Vistra highlighted at the June RCPPP Workshop, Lazard's recently published report[13] identifies a net CONE value of $18.92/kW-month in CAISO.

iv. COD Requirements Are Not Needed in the RCPPP Framework and Would Cause LSEs to Incur Duplicative Penalties

The Energy Division's Staff Proposal for the RCPPP does not propose a COD requirement as a direct compliance obligation under Reliability Option 1 for the RCPPP itself. Instead, for the most immediate years, T+0 (current year) and T+1 (next year), the Staff Proposal states that there will be no RCPPP compliance obligations regarding resource online status, as these are covered by the existing month-ahead and year-ahead Resource Adequacy (RA) program requirements.

This same logic also extends to a framework focused on new procurement only. As described further in **Section II.D**, the RA program is optimally suited to manage resource retention due to its established function in operationalizing the existing fleet of resources and ensuring their continued availability. There are two issues with commercial online date requirements when viewing the RCPPP and the RA program holistically. First, the RA program already penalizes LSEs that fail to meet their RA requirements. LSEs that are depending on new resource

[13] Lazard's LCOE+ 2025 Report, pg. 28

development to meet their RA needs each year would face an RA penalty in the event of development delays. The RCPPP framework should not be structured to additionally penalize LSEs that have contracted for new resources but already face RA penalties for shortages due to development delays ("double penalty"). Second, new resources may or may not be needed in a compliance year as system conditions may or may not materialize aligned with the RCPPP assumptions. To the extent that system conditions worsen relative to the RCPPP assumptions or resource development is delayed, LSEs would extend RA contracts for existing resources to meet up-to-date operational requirements, or face RA penalties. To the extent that system conditions improve relative to the RCPPP assumptions, LSEs should not be penalized for resource development delays if they maintain RA contracts for a portfolio of resources that meet their operational needs as confirmed through the RA program ("no harm, no foul").

The Commission may be concerned that the level of the penalty in the RA program (currently $8.88kW-month) is not sufficient to incentivize timely new resource development. The solution to this concern is not to create a complex double penalty structure across two procurement frameworks, but rather to update the RA program penalty structure to recognize that new resources may be needed to meet increasing RA requirements. Althoug we recognize RA program penalties would be determined in the RA proceeding, we want to underscore that if RCPPP is designed to be interdependent with RA, the success of RCPPP will be dependent on sound RA program design and implementation, including RA penalties. The Commission should consider increasing the RA program penalties to a level sufficient to incentivize timely new resource development within the RA proceeding as the most efficient way to achieve IRP/RA alignment in this respect.

D. Resource Retention Signals Should Remain Contained Within the RA Program

The RA program is optimally suited to manage resource retention due to its established function in operationalizing the existing fleet of resources and ensuring their continued availability. The RA program primarily focuses on securing contracts with existing resources and subjecting them to a must offer obligation in the CAISO market, typically with a one- to three-year time horizon. This existing framework allows resource owners to typically wait for RA prospects before giving notice to retire or mothball their assets, as declining RA prospects often prompt considerations for repowering or retirement. While the RCPPP is primarily designed for mid- and long-term planning and procurement of new resources, the RA program with its operational focus is an effective tool to signal contracting for and retention of existing resources. This clear division of labor would facilitate a "clean hand-off" from the IRP process (focused on new resource development via RCPPP) to the RA program (responsible for fleet operationalization and retention), providing clearer signals across the planning and operational horizons.

If stressed conditions materialize in a compliance year, if new resource development is delayed, or if transmission supporting deliverability is delayed, the RA program will retain existing resources as needed to meet reliability needs.

E. CESA Provides an Alternative Proposal Focused On New Resource Procurement Only (Including Repowering and Augmentation)

CESA proposes the RCPPP framework focus on new resource procurement only, like described in Reliability Option 2, but with a timeline that is similar to Reliability Option 1.

The RCPPP model used to determine ELCCs and Reliability Procurement Needs (“RPN”) value should be based on contract status of existing resources for the compliance year where all resources that have given notice to CAISO to retire prior to the Summer of the compliance year

and all resources that do not have a contract extending over the Summer of T+2 and beyond would be considered "existing uncontracted" and removed from the baseline, thus increasing the need for new resource development (including repowering).

The Energy Division should set a binding ELCC in the Fall of T+6 for T+0 (i.e. a vintaged marginal ELCC) and can provide advisory marginal ELCC values for years further in the future to better inform long lead-time resource development, including LDES. This approach would be similar to the Commission's MTR approach, but provide a steady and predictable cadence to ELCC development and compliance aligned with RCPPP's principles. Once the marginal ELCC for T+0 is set in T+6, it will remain the same throughout the procurement period. CESA understands that a 6-year vintaging of marginal ELCCs will have a higher degree of uncertainty regarding whether it ultimately over or under represents each resource's eventual reliability contribution in the compliance year. Nonetheless, it will provide a reasonable approximation applicable to new build resources and it makes practical sense to give LSEs certainty during their RCPPP procurement process. Furthermore, it will provide a clear and simple signal to the forward development market to accomplish the important task of getting resources built, while letting the RA program retain resources as necessary to bridge materialized uncertainty. To further guide the RA program in its task to retain resources as needed, Energy Division staff could also provide updated "information only" ELCC values to the market in T+4 and T+3, but these values should not be used for compliance.

LSEs should execute and show contracts over a two-year procurement period. There should be a compliance assessment in T+5 and T+4 based on new resource contracting (including repowers) towards an 80% and 100% respectively to support a new resource development timeline.

In the RA proceeding, the Commission could consider extending the RA program to T+2 with an 80% year-ahead compliance filing to support contracting that ultimately informs the RCPPP baseline. This additional year is intended to support further contracting of existing resources that are needed to meet reliability objectives, where unneeded resources will remain uncontracted and therefore be removed from the baseline.

In the RA proceeding, the Commission should consider updating the RA program penalty structure to recognize that new resources may be needed to meet increasing RA requirements and ensure the cost of non-compliance is greater than the cost to develop new resources to meet those needs.

Under this proposed framework, the Commission would verify that LSEs have contracted with new resources (including repowers) for 80% of their new resource Reliability Procurement Requirement ("RPR") in T+5 and 100% in T+4. After this point, LSEs would not be subject to any more RCPPP compliance checks.

	NEW ONLY PROCUREMENT (INCLUDING REPOWERING AND AUGMENTATION)							
	June Compliance Showing	T+0	T+1	T+2	T+3	T+4	T+5	T+6
RA	RA Program Requirements (Slice-of-Day)	100% MA	90% YA	80% YA	N/A	N/A	N/A	N/A
			Resource Retention Coordination					
RCPPP	Meet Summer RCPPP RPR (new res.)					100%	80%	Set Binding ELCCs for year T+0
					TPD Attainment & Retainment			
	Offtake Contract (new res.)					•	•	

Figure 1: Summary of Requirements Compliance Year T+0

Under this timeline, LSEs would only be subject to new resource procurement for two compliance years at a time. For example, in 2025, the Energy Division would establish ELCC values, RPN, and RPRs for 2031. In 2026, LSEs would show procurement to meet 80% of their 2031 RPR. If the 2031 80% RPR is not met in 2026, the LSE would face a net CONE penalty.

Also in 2026, the Energy Division would establish ELCC values, RPN, and RPRs for 2032. In 2027, LSEs would show procurement to meet 100% of their 2031 RPR and 80% of their 2032 RPR. If the 2031 100% RPR is not met in 2027, the LSE would face a net CONE penalty. Also in 2027, the Energy Division would establish ELCC values, RPN, and RPRs for 2033.

2025	2026	2027	2028	2029	2030	2031	2032
Set ELCCs for 2031 compliance	80% contracted for **2031 (new)**	100% contracted for **2031 (new)**		80% YA RA showing	90% YA RA showing	100% MA RA showing	
	Set ELCCs for 2032 compliance	80% contracted for **2032 (new)**	100% contracted for **2032 (new)**		80% YA RA showing	90% YA RA showing	100% MA RA showing
		Set ELCCs for 2033 compliance	80% contracted for **2033 (new)**	100% contr. for **2033 (new)**		80% YA RA showing	90% YA RA showing

Figure 2: Example of Overlapping Compliance Timelines in Chronological Order

F. Longer-Term, the Commission Should Holistically Consider Local Capacity Area Issues and Identify the Role For More Granular Reliable and Clean Resource Accounting

There are several compelling reasons to consider local capacity area issues in the RCPPP framework, including but not limited to ensuring there are signals to build new clean resources in local capacity areas so that legacy emitting resources can be orderly retired. There is necessarily both a reliability and clean element to local capacity area procurement and it is apparent that neither can be addressed in a vacuum.

Vistra expressed concern that without explicit local requirements, RCPPP could meet system needs through non-local resources, potentially leading to unnecessary additional local capacity procurement and increased overall RA costs. It recommended that RCPPP should incorporate local requirements to mitigate over-procurement risks when relying too heavily on non-local RA, suggesting this could be achieved by adjusting Central Procurement Entity's

("CPE") local RA responsibilities or pushing RCPPP's compliance years. The California Environmental Justice Alliance (CEJA) and Sierra Club ("CEJA-SC") criticize the current RCPPP Reliability proposal for failing to adequately address air quality and local reliability, arguing it focuses only on system-wide need. In the RA proceeding, the Energy Division staff and others have expressed concerns with local capacity area market power, which should be resolved in the IRP proceeding as long as local RA prices are not allowed to rise due to a concern for the potential exercise of market power.

III. Approach to GHG Reduction

A. The Clean Content Accounting Must Be Corrected to Ensure Accurate Resource Development Signals to Achieve a Reliable and Clean Resource Fleet

To enhance the accuracy and effectiveness of the CES within the RCPPP, CESA proposes that the Commission adopt the PSDP as the primary measure for CES compliance. This would improve accuracy and effectiveness while also aligning with Energy Division's objectives for fairness, simplicity, scalability, and ability to avoid duplication with other GHG regulations.

The RCPPP proposes a Clean Energy Standard ("CES") as a core component for achieving GHG reduction goals. This proposal aims to translate the CPUC's electric sector GHG targets into individual LSE obligations. The CES is defined as a minimum annual percentage of CES-eligible generation relative to annual retail sales, designed to align with the state's 100% clean energy and GHG goals. CES-eligible resources would encompass both Renewables Portfolio Standard ("RPS")-eligible resources and a broader set of GHG-free resources, including Zero-Emission Credits ("ZECs"). Compliance would be assessed in backwards-looking, three-year compliance periods, mirroring the existing RPS program, with a proposed financial penalty of $50 per Megawatt-hour (MWh) for each MWh of deficiency. Staff's rationale for preferring the CES over a mass-based approach includes its simplicity, scalability, and ability to avoid duplication with other GHG regulations.

Although the RPS program overall constitutes an important renewable market, RPS *accounting* (the basis for the proposed CES) relies on an annual summation of energy generation, which inequitably discounts the true value of energy storage resources and clean firm resources in achieving comprehensive renewable objectives. This breaks one of Energy Division's core program design principles articulated in the Staff Proposal, fairness. This design unfairly

discriminates across technology types or projects. This approach primarily values storage for its ability to avoid renewable curtailment behind the main meter, overlooking the contributions of standalone storage and its broader system benefits. Annual targets allow for resource shuffling and banking of Renewable Energy Credits ("RECs"), leading to scenarios where LSEs meet their annual clean energy targets by purchasing unbundled credits or by relying on existing out-of-state resources, without necessarily driving new, in-state clean resource build or actual hourly emission reductions. Without hourly emission matching, the CES would not send the market signals needed to develop the new renewable resources crucial for California's climate goals. This can lead to perverse outcomes where, for instance, a 100% solar portfolio might perform identically to a more diverse portfolio under the CES, despite significant differences in their hourly emissions performance and reliance on fossil fuels during non-solar hours.

In contrast, the Power Source Disclosure Program ("PSDP") and related hourly accounting methods are more accurate for capturing energy storage contributions and overall grid decarbonization. The PSDP, under California Energy Commission ("CEC") jurisdiction, uses ex-post, hourly, meter-based accounting. Furthermore, Senate Bill ("SB") 1158 (Becker, 2022) mandates that the CEC establish an hourly mass-based accounting framework with LSE reporting commencing in 2028, and authorizes the CPUC to utilize this data to assess LSE progress toward emissions targets. [14] The IRP process's own Clean System Power ("CSP") calculator already uses an ex-ante, hourly, portfolio-based accounting methodology. These hourly mass-based approaches are more accurate as they directly measure the varying GHG reduction value of clean generation throughout the year, including during critical hard-to-decarbonize hours (e.g., winter evenings).

[14] CESA is aware that although the CEC will produce results from an hourly-matched assessment and make these results available to other agencies, it will not yet use the hourly-matched results to inform its Power Content Label.

This level of granularity incentivizes the procurement of a diverse portfolio of resources, including clean firm power and dispatchable storage, that can effectively meet load and reduce emissions across all hours, addressing the saturation effects of intermittent renewables and ensuring that LSEs truly match their hourly loads with clean resources.

To enhance the accuracy and effectiveness of the CES within the RCPPP, CESA proposes that the Commission adopt the PSDP's hourly-matched results as the primary measure for CES compliance.[15] This would improve accuracy and effectiveness while also aligning with Energy Division's objectives for simplicity, scalability, and ability to avoid duplication with other GHG regulations. The current RPS accounting, which largely informs the proposed CES, relies on an annual summation of energy generation that discounts the true value of energy storage and fails to capture actual hourly emission reductions. In stark contrast, the PSDP employs hourly matching in addition to being an ex-post meter-based methodology, which provides a significantly more accurate measure of energy storage contributions and overall grid decarbonization. This approach aligns with the mandate from SB 1158 for the CEC to establish an hourly mass-based accounting framework by 2024, with LSE reporting starting in 2028, and explicitly authorizes the CPUC to utilize this data to assess LSE progress toward emissions targets. This would provide a more precise and impactful signal for the necessary new resource build that is the core mission of the IRP process.

Starting in 2028, the PSDP's hourly-matched accounting results will more accurately capture energy storage and firm clean resource contributions to emissions reduction objectives. In

[15] The CEC will produce the percentage of retail sales served by renewable sources following an hourly-matched methodology starting in 2028. Although these values will not be used in the LSE Power Content Labels, they will be calculated and available to the CPUC to use in its compliance enforcement efforts.

the example below, an LSE meeting a 100% RPS requirement without hourly-matching accounting would still contribute to the need to run non-clean generation, a suboptimal outcome.

LSE Portfolio Composition: Produces 1,000 MW of solar while consuming 800 MW of load in one hour of the day and produces 0 MW of solar while consuming 200 MW of load in another hour.

RPS Accounting: The LSE is 100% clean

Reality: The LSE has not procured 100% clean resources because the LSE contributes to the need to run non-clean generation in the second hour.

Solution: The LSE must either procure a clean firm resource that can produce energy in the second hour or procure energy storage to shift 200 MW of excess renewable production in the first hour to the second hour.

Figure 3: Annual-Matching versus Hourly-Matching Example

CESA recognizes that moving to an hourly-matched accounting may involve some market transitional renewable market friction. Nonetheless, the Commission should adopt the PSDP hourly-matched accounting to assess compliance with the RCPPP and support flexibility and transactability enhancements in the REC market where possible going forward. CESA understands that hourly-matching requires a much more granular understanding of electricity consumption and matching it with renewable generation on an hour-by-hour basis, which is a significant shift from the traditional annual matching of RECs. Most existing energy attribute tracking systems (like WREGIS) do not currently issue RECs with hourly information, which may necessitate new or enhanced tracking systems in the future. Although the hourly-matched accounting will be performed by the CEC, there may remain concerns about how these results compare to the annual-matched results and how to appropriately align REC products going forward. To increase LSEs' renewable procurement flexibility and transactability, the Commission should support enhancements to REC products where possible, such as including hourly information.

B. The Non-Compliance Penalty Must Be Set So That the Penalty Cost Would Be Greater Than the Cost of Contracting For New Resource Development

CESA is concerned that the proposed $50/MWh penalty is not sufficient to support the IRP process' objective to incentivize new clean resource development as needed to meet both the RCPPP framework's reliability and clean content objectives. Hourly matching accounting (such as PSDP) coupled with a penalty greater than $114/MWh would go a long way towards ensuring compliance with he clean energy standard.

Lazard's recently published report[16] lists a low- and high-end Levelized Cost of Energy ("LCOE") for several renewable energy generation technologies. Overall, renewable generation is cost competitive with conventional thermal technologies, but estimated mid-range LCOEs are greater than the $50/MWh that an LSE would have to pay to simply not meet its clean energy requirements.

Technology	Lazard's Low-End LCOE ($/MWh)	Lazard's High-End LCOE ($/MWh)	Estimated[17] Mid-Range LCOE ($/MWh)
Solar PV—Utility	$38	$78	$58
Solar PV + Storage—Utility	$50	$131	$91
Geothermal	$66	$109	$88
Wind—Onshore	$37	$86	$62
Wind + Storage—Onshore	$44	$123	$84
Wind—Offshore	$70	$157	$114

Coupled with an hour-matched accounting, a penalty value set greater than $114/MWh would signal appropriate new resource development to meet emissions reduction objectives in all

[16] Lazard's LCOE+ 2025 Report, pgs. 39-40
[17] This is the simple average of Lazard's low- and high-End LCOE.

hours of the day. An LSE incurring a penalty for relying on system power in the evening hours would have to either incur a penalty of greater than $114/MWh or develop new resources that can achieve compliance for less than or equal to $114/MWh, such as offshore wind, onshore wind plus storage, geothermal, or solar PV plus storage. If the penalty value were set lower than $114/MWh, the clean energy standard would not incentivize LSEs to pursue offshore wind options as they would be seen as more expensive than paying the penalty. Since past IRP decisions have included offshore wind as part of an optimal portfolio, this recommended penalty, based on the offshore wind LCOE, supports entities in choosing to procure offshore wind as part of a diverse portfolio of resources rather than accepting a compliance penalty.

IV. Answers to Staff Questions

A. Reliability Question 1: Which reliability option (i.e., Option I or Option II) should the CPUC adopt? Please explain the justification for the recommended option in detail.

As discussed in ***Section II***, CESA proposes that the CPUC adopt a framework for the RCPPP that focuses on new resource procurement only, akin to Reliability Option II, but with a timeline similar to Reliability Option I.

- As discussed in ***Section II.A***, the core purpose of the IRP process (which informs RCPPP) is to get new resources built as needed to achieve California's electricity goals. RCPPP should provide simple, clear signals for new resource procurement.
- As discussed in ***Section II.B***, Marginal ELCC accreditation is a proven, clear, and fungible accounting method to support new resource development. It provides accurate price signals and efficient investment incentives by recognizing diminishing returns and encouraging diverse, complementary resources. Slice-of-day resource accounting is incomplete, unproven, and too costly for the IRP process.
- As discussed in ***Section II.D***, The RA program is optimally suited to manage resource retention and operationalize the existing fleet. This creates a "clean hand-off" where IRP/RCPPP focuses on new development, and RA manages existing fleet operations and retention signals.

B. <u>Reliability Question 3</u>: In what ways should Option I or Option II be modified prior to CPUC adoption? Are there relevant considerations that are currently not captured in both options?

CESA proposes several modifications and considerations summarized below and discussed in more detail in ***Section II***:

- The RCPPP framework should focus on new resource procurement only (including repowers).
- Adopt a "Contract Status" baseline method for assessing LSE procurement, moving away from a "New/Existing" baseline. This excludes uncontracted existing resources from the baseline, thereby creating a need for new resource development or repower.
- Implement an advance 100% contracting requirement by T+4. This is crucial to de-risk project development, ensure market certainty, and align with CAISO interconnection and deliverability processes.
- Non-compliance with the RCPPP contracting requirement must be penalized at net CONE to ensure incentive alignment, making contracting for efficient new resource development less costly than non-compliance.
- COD requirements are not needed in the RCPPP framework. The RA program already penalizes LSEs for failing to meet RA requirements due to development delays, thus RCPPP should avoid duplicative penalties. If RA penalties are insufficient, they should be updated within the RA program itself.

C. Reliability Question 4: How should Option I or Option II incentivize re-powers?

As discussed further in ***Section II.C.i*** and ***Section II.E***, repowers should be incentivized primarily through:

- The "Contract Status" baseline approach. By excluding all uncontracted existing resources from the baseline, this method creates a procurement need that can be met by new resource development, including orderly repowering of resources as they come off contract or are on retirement watch.

- In the year in which the Energy Division performs its RCPPP study for compliance year T+0, all resources that have given notice to CAISO to retire prior to the Summer of the compliance year and all resources that do not have a contract extending over the summer of T+2 and beyond would be considered “existing uncontracted” and removed from the baseline, thus increasing the need for new resource development (including repowering).

- An advance 100% contracting requirement by T+4. This timeline provides sufficient lead time (up to 3 years) for repower projects to be contracted and developed.

D. Reliability Question 6: Is the proposed timeline for reliability procurement reasonable, or are there alternate timelines that should be considered?

CESA proposes a timeline similar to Reliability Option I, specifically a 100% contracting requirement by T+4. This involves a two-year procurement period where LSEs show 80% procurement for compliance year T+0 in T+5, and 100% in T+4.

- This timeline is reasonable because it provides the necessary longer contracting lead times to de-risk project development, ensure market certainty, and align with critical CAISO processes like interconnection and deliverability allocation. Project developers often need contracts at least three years in advance for cost-efficient development and timely construction.

- Another consideration is for the RA proceeding to additionally extend the RA program to T+2 with an 80% year-ahead compliance filing. This supports further contracting of existing resources needed for reliability, where unneeded resources remain uncontracted and are removed from the RCPPP baseline.

E. <u>GHG Reduction Question 1</u>: Should existing IRP and RPS processes be used or modified to achieve the electric sector's GHG emissions reduction goals instead of a new CES framework? If so, why?

As discussed further in ***Section III***, CESA proposes that the CES framework should proceed but must be modified by leveraging the existing PSDP's hourly matching accounting results as the primary measure for CES compliance.

- The current RPS accounting, which largely forms the basis for the proposed CES, is flawed. It inequitably discounts the true value of energy storage and clean firm resources, and allows for resource shuffling and banking of RECs. This leads to scenarios where LSEs meet targets without necessarily driving new, in-state clean resource build or actual hourly emission reductions. It fails to send market signals for new renewable resources without hourly matching.

- In contrast, PSDP and related hourly-matching accounting methods are more accurate for capturing energy storage contributions and overall grid decarbonization. PSDP uses ex-post, hourly, meter-based accounting. This approach aligns with SB 1158 (Becker, 2022), which mandates the CEC establish an hourly mass-based accounting framework by 2024, with LSE reporting starting in 2028, and authorizes the CPUC to use this data. Hourly mass-based approaches are more accurate because they measure the varying GHG reduction value of clean generation throughout the year, incentivizing a diverse portfolio of resources that can effectively meet load and reduce emissions across all hours.

F. GHG Reduction Question 5: Are there alternative approaches to GHG reductions that should be considered and why?

As discussed in ***Section III***, while not proposing entirely alternative frameworks to the CES, CESA advocates for critical modifications to ensure the effectiveness of the CES:

- Adopt the PSDP's hourly-matching accounting results as the primary measure for CES compliance. This is the most significant "alternative approach" to the proposed CES accounting. This improves accuracy and effectiveness, captures the true value of energy storage and firm clean resources, avoids issues like resource shuffling and banking of RECs, and provides more precise signals for new resource development needed for actual hourly emission reductions and grid decarbonization.

- Set the non-compliance penalty for the CES to be greater than $114/MWh. The proposed $50/MWh penalty is insufficient to incentivize new clean resource development, as the estimated mid-range LCOE for several renewable technologies

is much higher (up to $114/MWh). A higher penalty, coupled with hour-matched accounting, would appropriately signal new resource development across all hours of the day and ensure that the cost of non-compliance is greater than the cost of contracting for new clean resources.

V. Conclusion

CESA appreciates the opportunity to submit these comments.

Respectfully submitted,

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