

GREENGENSTORAGE LLC INFORMAL COMMENTS ON MTR COMPLIANCE STAFF PROPOSAL WORKSHOP

I. INTRODUCTION

GreenGenStorage, LLC (GreenGen) submits these informal responses to the Energy Division staff workshop questions emailed on June 17, 2026. GreenGen is a California-based pumped storage hydro (“PSH”) development company permitting the open-loop Mokelumne water battery project, which is on track to obtain a Federal Energy Regulatory Commission (“FERC”) license by 2027. GreenGen has focused its responses on the questions most relevant to the procurement, compliance, and accreditation of long-lead-time and long-duration energy storage resources, and it does not address questions directed primarily at load-serving entities or balancing-authority compliance mechanics. The absence of a response to a particular question reflects this focus and should not be read as agreement or disagreement with any position. GreenGen identifies each response by the staff’s question number and presents the responses in the order the questions were listed.

II. ANSWERS TO QUESTIONS

A. Section 1. Net CONE

Question 1. Should a mechanism other than Net Cost of New Entry (CONE) be used to determine the penalty for procurement non-compliance? If yes, what mechanism?

GreenGen does not recommend replacing Net CONE as the mechanism for setting the procurement non-compliance penalty. Net CONE is a well-established and widely used benchmark in resource adequacy and capacity market design, and it reflects the cost of the new capacity an LSE failed to bring online, which is the appropriate economic benchmark for a

procurement-deficiency penalty. Thus, replacing a sound and well-understood mechanism is not advised.

GreenGen's concern with net CONE is not with the mechanism itself but when the penalty's application is uniformly and rigidly applied across different resource types whose development timelines and delay-risk profiles differ materially. A penalty implicitly calibrated to short-duration battery storage applies the same exposure to long-lead-time resources such as Pumped Storage Hydro (PSH), whose development timeline is highly governed and dictated by FERC licensing, CAISO interconnection timelines, and permitting, among other things, that extend well beyond a four-hour battery's and lie substantially outside the developer's control.¹ A LSE facing undifferentiated Net CONE penalty exposure has reason to avoid contracting with long-lead-time resources or has a strong incentive to offload that exposure onto developers through liquidated damages and security provisions sized to the penalty. This exposure impairs the financeability of the long-duration energy storage projects on which the Commission's modeled portfolios depend. Either way, the effect is to push procurement toward fast-development, short-duration resources, which is contrary to the storage duration diversity the Commission's own planning identifies as essential to meet future CHG reduction goals and system reliability needs.

GreenGen, therefore, recommends retaining Net CONE and ensuring that its application is consistent with the compliance pathways the Commission has adopted for delayed long-lead-time resources. In decision D.25-09-007, the Commission determined that an LSE is deemed compliant with its procurement obligations, including for long-lead-time resources, where it holds sufficient executed long-term contracts and has maintained its month-ahead system

¹ Net CONE is based on the cost of a new battery storage facility,

resource adequacy through the deficiency cure deadline, for up to three years from the required online date.² In the same decision, the Commission preserved the good faith efforts standard and directed that it be clarified in this proceeding.³ As described in GreenGen's response to Section 2 below, the penalty should not fall on an LSE that satisfies the deemed-compliance pathway or makes the requisite good faith showing for their diligent pursuit of a long-lead-time resource. Applying the full Net CONE penalty in those circumstances produces no additional capacity and reintroduces the very disincentive to contract with long-lead-time resources that the deemed-compliance pathway was adopted to eliminate.

Question 3. It is proposed to replace existing language that sets the procurement penalty amount (Net CONE) -- set at the price of a battery energy storage facility-- to a specific dollar amount. Is there a reason that a specific dollar amount should not be provided to replace Net CONE? If yes, explain why?

GreenGen does not take a categorical position on whether the penalty amount is expressed through the Net CONE formula or as a specific dollar amount. Each approach involves a tradeoff. A fixed amount offers predictability, which can help LSEs and developers allocate and price the penalty risk in their long-term contracts, which is beneficial and meaningful for capital-intensive long-lead-time resource projects. The principal reason for caution is that a fixed amount can drift from market conditions over time and sever the penalty from the cost of curing the deficiency, which is the economic rationale that makes Net CONE an appropriate benchmark in the first instance. However, that concern is manageable. If a specific dollar amount is adopted, it should be reviewed and refreshed on a defined, periodic basis so that it does not become stale.

² See CPUC Decision (D.25-09-007), Ordering Paragraphs #6 and #8 at pp. 45-48.

³ Id. at pg. 44.

Whichever form the Commission selects, the amount should remain grounded in the cost of the marginal new-entry resource actually being built in California. The current Net CONE reference already reflects this. In D.21-06-035, the Commission set the penalty at net CONE based on the cost of a new battery storage facility, net of estimated energy market and ancillary services revenues, on the basis that battery storage is a technology highly likely to be procured in response to the order.⁴ That battery-based reference remains appropriate, because recent procurement has been dominated by solar and battery storage and the CAISO interconnection queue is overwhelmingly solar, wind, and storage.

For long-lead-time resources, the more consequential question is not how the penalty amount is set but how it is applied. As explained in GreenGen's responses to Section 1, Question 1 and Section 2 below, the priority for these resources is the consistent application of the penalty with the compliance pathways the Commission has already adopted, namely the deemed-compliance pathway of D.25-09-007 and the good faith efforts standard, so that an LSE pursuing a long-lead-time resource is not penalized for a delay outside its control.

B. Section 2. Good Faith Effort

Question 1. With the implementation of the alternative compliance approach, it is proposed to sunset the "good faith effort" policy. Is there a need for a complementary policy for the existing alternative compliance approach? Why or why not?

Yes. A complementary good faith policy remains necessary, and the Commission effectively reached this conclusion when it adopted the alternative compliance approach. In D.25-09-007, the same decision that established the deemed-compliance pathway, the Commission stated that the other provisions of D.21-06-035 compliance, including the good faith

⁴ CPUC Decision (D.21-06-035), Findings of Fact #26 at pg. 89.

efforts standard, remain available to LSEs.⁵ The Commission did not treat the deemed-compliance pathway and good faith as substitutes. It adopted the first and expressly preserved the second. In that same decision, the Commission directed staff to bring forward a proposal in this proceeding to clarify the compliance and enforcement standards in the mid-term reliability decisions, including the good faith efforts showing requirements. The instruction was to clarify the good faith standard, not to eliminate it.

The two mechanisms also serve different functions and are not redundant. The deemed-compliance pathway protects an LSE that holds sufficient executed long-term contracts, but whose resource is delayed in coming online, deeming it compliant if it maintains its month-ahead system resource adequacy through the deficiency cure deadline. Good faith addresses a different situation. For instance, an LSE that has diligently pursued the required procurement, but has not been able to execute a qualifying long-term contract by the compliance deadline. The deemed-compliance pathway does not reach that situation, because by its terms it requires sufficient executed long-term contracts. For long-lead-time resources this gap is not hypothetical. As the Commission recognized in D.25-09-007, procurement delays in this market have been driven by supply chain and permitting challenges, and for long-lead-time resources the FERC licensing and interconnection timelines that determine when a project becomes contractable can prevent execution of a bankable long-term contract by a given compliance date even where the LSE is pursuing the resource in good faith.⁶

Removing the good faith standard while retaining only the deemed-compliance pathway would leave the diligent pursuit of long-lead-time resources unprotected. An LSE unable to

⁵ CPUC Decision (D.25-09-007), Conclusions of Law #13, at pg. 44.

⁶ Id. at pg. 9

execute a qualifying long-term contract by the deadline, and unable to rely on the deemed-compliance pathway for that reason, would face the full procurement penalty notwithstanding its good faith efforts. The rational response is to abandon the long-lead-time procurement and substitute a fast development, short-duration resource that guarantees timely compliance. That outcome is contrary to the duration diversity reflected in the Commission's adopted portfolios. A complementary good faith policy, retained and objectively defined as discussed in response to Question 2 below, prevents that result while preserving the obligation to cure.

Question 2. Should "good faith effort" be defined? If yes, what should be the definition of "good faith effort"? Note: Any definition should be objective and measurable.

Yes, good faith should be defined, and it can be defined in objective and measurable terms because the Commission has already largely done so. Ordering Paragraph 5 of D.21-06-035 establishes an objective good faith standard for long-lead-time resources i.e., an LSE makes the showing by submitting evidence of at least two of the following six items, namely evidence of a solicitation, evidence of bids in a solicitation, an executed contract, evidence of site control, an interconnection agreement, and a notice to proceed.⁷ Energy Division staff's Frequently Asked Questions guidance applies this same standard to long-lead-time extension requests and elaborates it with related documentary indicators, including affidavits from developers regarding timing.⁸ GreenGen recommends that the Commission clarify the good faith standard by retaining and codifying this existing two-of-six structure rather than developing a new construct, because it already satisfies the requirement that any definition be objective and measurable.

⁷ CPUC Decision (D.21-06-035), Ordering Paragraph #5 at pp. 95-96.

⁸ CPUC Integrated Resource Planning (IRP, R.20-05-003), Energy Division Staff's Responses to Frequently Asked Questions on Mid-Term Reliability Procurement Decision (D.) 21-06-035, Version 6.1: 06/17/2025 found here: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltrp/d2106035_faqv6_1_20250617.pdf

GreenGen further recommends that, for long-lead-time resources, the Commission confirm that this enumerated evidence may be supplemented by objective development-progress markers that reflect the actual sequence by which such a resource becomes contractable. These include documented FERC licensing milestones, such as the filing of a pre-application document, a draft license application, or a final license application, and documented progress within the CAISO interconnection queue. These markers are objective and verifiable from project and agency records, and they are particularly probative for PSH and other long long-time resources, whose development timelines are governed and dictated by federal licensing and interconnection processes. Recognizing them alongside the existing Ordering Paragraph 5 evidence keeps the standard measurable,⁹ ties relief to demonstrable efforts and milestones rather than subjective assertions and preserves the obligation to cure.

Question 3. *With the implementation of the alternative compliance approach, please explain why the "good faith effort" policy may still be necessary. Provide an example scenario.*

Good faith remains necessary because the alternative compliance approach, by its terms, reaches only LSEs that already hold sufficient executed long-term contracts. It does not address the LSE that has diligently pursued the required procurement but has not yet been able to execute a qualifying long-term contract by the compliance deadline. That gap is most consequential for long-lead-time resources, where the timeline to reach a bankable contract is governed by FERC licensing and CAISO interconnection processes that the LSE and the developer do not fully control.

⁹ CPUC Decision (D.21-06-035), Ordering Paragraph #5 at pp. 95-96.

For example, an LSE seeks to meet a long-lead-time procurement obligation with a pumped storage hydro project. It issues a solicitation, receives a responsive offer, and advances negotiations with the developer. The project is real and progressing. It has filed its draft license application and is advancing through the CAISO interconnection queue. The LSE cannot, however, execute a qualifying ten-year contract by the compliance date because the project's FERC licensing and interconnection milestones have not yet reached the point at which the parties can finalize a bankable long-term agreement. Because the LSE does not yet hold an executed long-term contract, the deemed-compliance pathway of D.25-09-007 is unavailable to it. Absent a good faith standard, the LSE faces the full procurement penalty despite having done everything within its control to procure the resource.

The predictable response is for the LSE to abandon the long-lead-time procurement and contract instead for fast-development, short-duration resource that can be executed and brought online quickly enough to ensure compliance. The diverse and long-duration resource the Commission's portfolios identify as needed is the casualty. A good faith standard, defined objectively as described in response to Question 2, allows the LSE to demonstrate its diligent pursuit, obtain timing relief consistent with the long-lead-time extension framework, and remain obligated to cure the deficiency. It preserves the LSE's willingness to pursue long-lead-time resources rather than defaulting to the fastest built, shortest-duration option, which the current alternative compliance approach alone does not protect against.

C. Section 4. Capacity Factor

Question 4. Due to the Long Lead Time (LLT) requirement for the ratio of the actual amount of electrical power produced by a generating unit and the required continuous generation at full maximum discharge for 24 hours a day, 7 days a week, over a year, should there be a varied definition of capacity factor for LLT resources?

As a framing matter, and responsive to [Question 4.3](#), GreenGen does not recommend a different definition of capacity factor. [Capacity factor is a sound and well understood metric, and it does not require redefinition.](#) What the record reflects is not a problem with the metric but a problem of application i.e., the same benchmark is being applied to resources with fundamentally different operating profiles. [The appropriate refinement is to apply capacity factor according to a resource's operating characteristics, not to create a separate definition for long-lead-time resources as a class.](#)

Long lead time is not the distinction that matters for this purpose. [The distinction that matters is between continuous-output resources and duration-defined, dispatchable resources.](#) A [continuous-output resource, whether or not it is long lead time, is properly measured against sustained full output, and a capacity factor threshold such as the 80 percent applied to the firm zero-emitting category is an appropriate firmness screen for that resource.](#) A long-lead-time resource intended to operate as a continuous-output generator, such as [geothermal, therefore needs no different capacity factor metric than any other continuous-output resource.](#) For that reason, [GreenGen does not seek a varied capacity factor for long-lead-time resources generally.](#)

The concern arises only where a continuous-output benchmark is applied to a resource that is not a continuous-output generator. The [definition referenced in Question 4.4](#) measures a resource against full maximum output sustained 24 hours a day, 7 days a week, across the year. That benchmark describes a baseload generation profile. It does not describe a duration-defined or storage resource, such as a PSH project, which is designed to deliver its rated output across a defined storage duration and to operate on charge and discharge cycles, not to run at full output continuously. Measured against a continuous-output denominator, such a resource will record a low capacity factor by design, not because it is underperforming, but because the metric is

measuring a capability the resource is not designed or contracted to provide. A duration-defined resource that performs exactly as intended can appear to fail a continuous-output test. That is a category error in application, not a deficiency in the resource.

The Commission's own framework reflects this distinction. In D.21-06-035, the 80 percent capacity factor applies to the firm zero-emitting generation category, which Ordering Paragraph 2 limits to generation that is not use limited or weather dependent and under which no storage projects may qualify. Long-duration storage is a separate category, defined by the ability to discharge at maximum capacity for at least eight hours, and is not subject to the capacity factor test.¹⁰ The continuous-output capacity factor was therefore never designed to measure storage, and applying it to a duration-defined storage resource would be inconsistent with the Commission's own categorical structure.

Accordingly, GreenGen recommends that the Commission apply capacity factor according to resource operating profile. For a duration-defined or storage resource, the appropriate measure of performance is the resource's ability to sustain its rated output across its design duration and to be available to dispatch when called, rather than its output relative to continuous full-capacity operation across all hours. This is consistent with the principle GreenGen has advanced for storage qualifying capacity, that accreditation should rest on a resource's physical capability to sustain output over its qualifying duration. GreenGen is not requesting a lower capacity factor threshold or a relaxed standard. It is recommending that the metric measure the capability each resource is actually designed and contracted to deliver, so that a continuous-output benchmark is not applied to a resource whose value is duration-defined.

¹⁰ CPUC Decision (D.21-06-035), Ordering Paragraph #2 at pg. 94-95.

D. Section 5. Resource Delays

Question 5.1. *If a resource is delayed or contracted with a later online date and paired with a bridge or alternative compliance pathway, should the LSE be permitted to apply the selected tranche Effective Load Carrying Capability (ELCC), or should it be required to use the later ELCC associated with the online date?*

GreenGen recommends that, as a default, a resource retain the ELCC assigned for the tranche it was procured to meet, regardless of whether that value would be higher or lower at the resource's later online date. As a preliminary matter, GreenGen notes that following D.25-09-007 the bridge contract option was eliminated and replaced by the deemed-compliance pathway, so GreenGen reads this question to concern a resource that is delayed and covered by that pathway i.e., a resource under a sufficient executed long-term contract for which the LSE maintains its month-ahead system resource adequacy through the deficiency cure deadline.

For such a resource, the assigned tranche ELCC should apply by default, for three reasons. First, the resource was selected and contracted to meet the modeled need of that tranche, and the deemed-compliance pathway separately assures interim reliability during the delay through the month-ahead system resource adequacy requirement. Second, applying a different ELCC tied to the online date presumes that a resource type's ELCC reliably declines from one tranche to the next. That presumption is not hard and fast. The direction and magnitude of ELCC change are resource-specific and depend on duration, the saturation of the relevant reliability attribute, load growth, and the composition of the portfolio. For long-duration resources, capacity value is more durable than for short-duration storage, and as short-duration storage saturates the diurnal window the system's remaining need can shift toward endurance, so a duration-defined resource's ELCC may hold or even rise. Defaulting to the later online-date ELCC would treat an uncertain, resource-specific trajectory as a fixed downrating rule. Third, a rule that revised ELCC only downward upon delay would operate as a one-way ratchet against the resource and function

as a penalty rather than an accuracy measure. Holding the assigned value, applied symmetrically so that a resource whose ELCC would have risen is likewise not adjusted upward, is the neutral and manageable default.

GreenGen does not propose that the assigned value hold in every circumstance without limit. Where a delay is significant and the change in the resource type's ELCC is also significant, re-evaluation is reasonable. **GreenGen does not advance a fixed threshold for either the delay duration or the magnitude of ELCC change, and it recommends that the materiality threshold be developed through the workshop process.** Two principles should govern it. The trigger should be objective and symmetric, opening on a material change in either direction rather than on the fact of delay alone, so that it operates as an accuracy mechanism and not as a one-way penalty. And where the threshold is crossed, any adjustment to the counted value should apply prospectively rather than as a retroactive compliance penalty, because the LSE remains protected during the delay by the deemed-compliance pathway's month-ahead system resource adequacy requirement.

Question 5.2. How should resource delay be defined? What evidence can be provided to prove a resource delay?

Resource delay should be defined objectively as a change in a resource's expected commercial operation date such that it falls after the compliance date of the tranche the resource was procured to meet. Defining delay by reference to the expected online date relative to the applicable compliance date keeps the determination factual and verifiable rather than discretionary.

Evidence of delay should consist of documented indicators of the resource's development status and the cause of the slip. The cause matters because the Commission has already recognized that procurement delays in this market are driven substantially by factors outside the developer's and the LSE's control. In D.25-09-007, the Commission attributed delays to supply

chain constraints and permitting challenges facing developers and LSEs. For long-lead-time resources, the most probative evidence of a delay and its cause can be easily assessed from the development record i.e., the resource's FERC licensing status and milestone dates, its position and progress in the CAISO interconnection queue, equipment and supply chain documentation, and state and local permitting status. An LSE should be able to demonstrate a delay, and that the delay arises from such causes, through these objective records along with the developer's updated project schedule.

Question 5.4. *Should the alternative compliance mechanism cure a deficiency gap for a resource that is contracted for a later date, or should the alternative compliance mechanism only close the gap if a resource was originally contracted for an earlier online date?*

The alternative compliance mechanism should cure a deficiency gap based on whether the LSE holds a qualifying executed long-term contract and is maintaining interim system reliability, not on whether the resource's later online date represents a delay from an earlier planned date or an inherently later date. Limiting the cure to resources originally contracted for an earlier date would disadvantage long-lead-time resources, which are by their nature long-dated. A PSH facility or other long-lead-time resource may be contracted for a later online date at the outset because its development timeline requires it, not because of any slip. Treating such a resource as ineligible for the cure, while extending the cure to a shorter-duration resource that was contracted earlier and then delayed, would penalize the long-duration resource for a characteristic that the Commission's portfolios specifically value.

This reading is consistent with D.25-09-007. The deemed-compliance pathway adopted there applies to long-lead-time resources by its terms and conditions compliance on the LSE holding sufficient executed long-term contracts and meeting its month-ahead system resource adequacy obligations, without reference to whether the later online date reflects a delay from an

earlier original date. GreenGen recommends that the alternative compliance mechanism close the deficiency gap for any resource meeting those conditions, regardless of whether its later online date is original or the product of a delay.

Question 5.5. *What documentation should be required to demonstrate that a resource was originally intended for an earlier contract date, other than an executed contract?*

The supporting documentation should be objective and drawn from the procurement and development record rather than limited to an executed contract. Appropriate documentation includes records of the solicitation through which the LSE sought the resource and the bids received, draft contract materials and documented correspondence reflecting the status of negotiations, internal procurement approvals and authorizations, and project development records such as FERC licensing filings and interconnection queue status that establish which resource the LSE was pursuing and the timeline originally contemplated. These records are verifiable and are the same categories of evidence relevant to demonstrating a resource delay under Question 5.2 and a good faith effort under Section 2.

Question 5.6. *If a resource is delayed, can an LSE negotiate language that requires the delivery period to be extended to maintain a 10-year tenure?*

Yes. An LSE should be able to negotiate contract language that extends the delivery period so that the full ten-year contract tenure is preserved from the resource's actual commercial operation date. Ordering Paragraph 9 of D.21-06-035 requires a minimum contract duration of ten years, and the decision explains that this requirement applies to the period of the contract and is not based on the resource's online date.¹¹ The decision grounds the ten-year term in the need to induce developers to make large capital investments and finance their projects, noting that

¹¹ Id., Ordering paragraph #9 at pg. 97.

shorter contracts for new resources would simply raise annual costs by amortizing project costs over a shorter period.

For long-lead-time resources, preserving the full ten-year tenure from the actual online date is important to bankability. If the ten-year period were measured from an earlier, pre-delay date, a delay would shorten the effective revenue tenure available to support financing, which falls hardest on the capital-intensive long-lead-time resources that depend on a stable contracted revenue period to reach financial close. Allowing the delivery period to be extended to maintain a full ten-year tenure from the commercial operation date is consistent with the financing purpose of the ten-year requirement and supports development of the long-duration resources reflected in the Commission's portfolios. GreenGen recommends that the Commission confirm that such contract language is permissible.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'N. Sher', written over a circular scribble.

GreenGenStorage, LLC

By: Nicholas Sher, Managing Director

Date: July 2, 2026