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CESAâ€™s Comments on Summer and Midterm Reliability

Additional submitted attachment is included below.

May 27, 2022

Email to: docket@energy.ca.gov
Docket Number: 21-ESR-01
Subject: CESA's Comments on Summer and Midterm Reliability

Re: Comments of the California Energy Storage Alliance on Staff Workshop on Summer and Midterm Reliability

Dear Sir or Madam:

The California Energy Storage Alliance ("CESA") welcomed the opportunity to present on at the workshop on May 27, 2022 on assessing summer and mid-term reliability ("MTR") risks and challenges, specifically focused on deployment risks associated with utility-scale solar and energy storage projects. As presented at the workshop, CESA highlighted the various near-term project execution risks, including those associated with lithium commodity prices, oil and shipping costs, uncertainty around the Auxin Petition, lockdowns in key Chinese manufacturing and shipping hubs, and interconnection and transmission delays or complications. To this end, CESA strongly supports the collective focus of the California Energy Commission ("CEC"), California Public Utilities Commission ("CPUC"), California Independent System Operator ("CAISO"), and Governor's Office in monitoring project deployment milestones and progress, in addition to crafting innovative and creative solutions where possible to overcome these challenges and/or mitigate these risk factors.

CESA is a 501(c)(6) organization representing over 100 member companies across the energy storage industry. CESA member companies span the energy storage ecosystem, involving many technology types, sectors, configurations, and services offered. As the definitive voice of energy storage in California, CESA is involved in a number of proceedings and initiatives in which energy storage is positioned to support a more reliable, cleaner, and more efficient electric grid. Given that energy storage represents the vast majority of new incremental capacity and considering how a significant portion of procured and contracted energy storage projects are being developed, constructed, and operated by our members, CESA aims to position our organization as a resource for agency staff and leadership in tackling these challenges and risks. With record buildouts of energy storage expected through 2045 to meet our long-term decarbonization goals and reliability objectives, the strategies and solutions developed in response to these near-term challenges and risks may play multi-fold dividends in facilitating timely resource deployments going forward.

I. INTRODUCTION & SUMMARY.

The CEC staff hosted a workshop on May 20, 2022 to provide an update on the outlook for Summer 2022 and mid-term electric system reliability. As many stakeholders in the industry have increasingly become aware, reliability risks have compounded over the past several years as a result of climate change, including extreme heat, extreme and prolonged drought, and wildfire events. More recently, as the world has emerged from the global pandemic, supply chains for battery storage and other electrical equipment (*e.g.*, transformers) have been constrained. On top of these challenges, the Commerce Department's launch of an investigation in response to the Auxin Petition has added another layer of uncertainty on the supply availability and costs of crystalline-silicon photovoltaic ("PV") panels. In the face of these challenges and risks while being in the depths of the clean energy transition, California is particularly impacted.

CESA thus finds workshops such as those held on May 20, 2022 to be of critical importance to coordinate the energy agencies and stakeholders on assessing these near- and mid-term electric system reliability risks, identify execution-related risks and challenges, and discuss potential solutions to mitigate these risks or overcome identified challenges. The next decade, and those to come thereafter, will be heavily focused on execution to bring the clean generation, storage, and demand-side resources online in a timely and efficient manner, as well as on continuing to expand the toolkit of commercially-available energy technologies to support our long-term electric-sector decarbonization trajectory and goals. To this end, in these comments, CESA offers our perspective and recommendations on the reliability assessments in addition to potential actions that can be taken in response to identified execution-related risks and challenges, summarized as follows:

- Near- and mid-term electric system reliability assessments should be clarified on the drivers for differing results, transparently detailed with underlying assumptions and approaches, and utilize loss-of-load expectation ("LOLE") where possible and feasible to inform formal planning and procurement.

- Commodity price spikes and volatility and other inflationary pressures are likely to impact 2023 and beyond projects, and in response, contract re-pricing and innovations such as indexing should be explored.

- COVID-related lockdowns in China may cause some incremental delays for select projects coming online in 2022, but these challenges should wane over time.

- The Commerce Investigation of the Auxin Petition will be impactful to hybrid and co-located projects coming online in 2023 and beyond, and California leaders should conduct strong outreach to federal authorities to get an expeditious determination.

- Continued enhancements to interconnection and deliverability allocation processes are needed to support timely deployment of energy storage projects coming online in 2023 and beyond.

- Streamlined permitting processes through either the CEC or through local jurisdictions can support timely deployment of energy storage projects.

- Market and reliability operational issues facing energy storage projects must be closely and continuously monitored and timely addressed as issues arise to ensure delivered project capacity translates to operational capacity.

- Greater utilization of behind-the-meter ("BTM") energy storage recognizing not only load reductions but also export capacity can support both normal and contingency capacity shortfalls.

- Aggressive development of diversity in the energy storage portfolio can support MTR needs, mitigate mid-term supply chain risks, and position the state for long-term deep decarbonization.

II. SUMMER 2022 AND MID-TERM NEEDS ANALYSIS.

As evident over the past several years, previous assumptions for electric reliability planning have been tested and warrant reassessment in the face of extreme heat events, extreme and prolonged drought, and wildfire risks to customers and electric infrastructure. CESA understands that planning practices are being discussed and evolved in each agency's respective process, such as the CEC's Integrated Energy Policy Report ("IEPR") process, the CPUC's Integrated Resource Planning ("IRP") and Resource Adequacy ("RA") proceedings, and the CAISO's Transmission Planning Process ("TPP"); so until and even after making these formal changes, having regular and periodic assessments of planning needs and reliability risks (such as the workshop held on May 20, 2022) will be imperative, especially as: climate change conditions can be dynamic and require deeper understanding; new and significant resource deployment faces evolving and emerging challenges from exogenous factors (*e.g.*, tariffs, supply chains); and enhancements to existing processes (*e.g.*, interconnection, permitting, contracting) are needed to accommodate unprecedented and record buildouts of a new class of energy resources (*e.g.*, solar, battery storage, non-lithium storage).

CESA therefore appreciates the analysis provided by the CEC and CAISO staff. In CESA's understanding of the presentations and the Q&A during the workshop, the CEC's stack analysis found that California's resource portfolio will always meet needs under a 15% planning reserve margin ("PRM"), but shortfalls of up to 3,500 MW in 2022 will occur almost always in September in the late- or post-solar hours (*e.g.*, 7-8pm) under a 22.5% PRM reflecting increased forced outages and demand variability. By contrast, using a LOLE analysis instead of a simpler stack analysis, the CAISO estimated a smaller gap of contingency resources of around 1,800 MW in 2022 and through 2025. The differences seem to mostly come in the form of the baseline assumptions: the CAISO conducted LOLE analysis using the CPUC-approved 2021 Preferred System Portfolio ("PSP") as the starting point, whereas the CEC used the latest Net Qualifying Capacity ("NQC") List and estimates of new-build from the MTR Procurement Order, CPUC Decision ("D.") 21-06-035. The

two approaches have tradeoffs, where the former (CAISO's analysis) may be overly optimistic about deployment rate during the 2022-2025 period as a function of assumptions made in the 2021 PSPS and the latter (CEC's analysis) does not capture the duration or probability of shortfalls, or even the more complex operational capabilities of energy storage,[1] under a more simplistic stack (instead of LOLE) analysis approach.

Regardless of these tradeoffs, in CESA's mind, the key takeaway for the CEC and other agencies should be that the period when load remains high but solar output decreases (*i.e.*, 8pm) will continue to be the challenge in the coming summer and years ahead. Energy storage resources are well-positioned to address this need and have been procured and contracted to these ends. As a consequence, tracking project development and facilitating their deployment will be critical to ensuring near- and mid-term electric reliability in the face of climate-related risks. While ongoing efforts to track project deployments is dynamic on a week to week basis and can be challenging given the large volume of new projects, deployment delays should be factored into any needs assessment and decision(s) on interconnection, permitting, and contracting enhancements.

To these ends, CESA supports the use of both stack and probabilistic analyses to understand capacity shortfalls. Presumably, stack analyses can be done more frequently, with updates to actual deployment levels and timelines, while probabilistic LOLE analyses can help better understand the magnitude, duration, and probability of any capacity shortfalls, albeit with less frequent or timely updates to baseline assumptions given the time required to run such models. As such, LOLE analysis should be pursued to the degree feasible and possible at the time in order to prudently make ratepayer investments, but stack analyses also have its role in understanding reliability risks over shorter time horizons (*e.g.*, month ahead, season ahead). Finally, to facilitate stakeholder understanding and feedback, the joint agencies should clarify and provide detailed assumptions and approaches used in these analyses.

III. PROJECT EXECUTION RISKS, CHALLENGES, AND POTENTIAL SOLUTIONS.

Although several past studies have shown that the clean generation and energy storage procurement ordered in the MTR decision and as detailed in the 2021 PSP can address our near- and mid-term electric reliability needs, key assumptions around deployment timelines are being tested with ongoing and emerging challenges related to supply chain constraints, federal trade policy, interconnection processes, and transmission upgrades. In other words, modeled assumptions and scenarios are only as good as how the state executes on these procurement orders and needs assessments. As such, CESA welcomed the opportunity to participate in an industry panel to elaborate on and explain these challenges and risk factors.

[1] CESA understands that the CEC's analysis, which estimates a much higher capacity shortfall, assumes energy storage will be limited to 1 cycle per day. CAISO's LOLE analysis, on the other hand, may instruct partial additional cycles, such that a simple stack analysis may be overstating the magnitude of the capacity shortfall.

Building on our comments at the workshop, CESA believes that these various risks and challenges are discrete and have different time horizons on which project deployment may be impacted. Whether these risks and challenges are compounding or stacked is a project-specific matter as well. In addition, beyond the ones discussed below and identified at the workshop by CESA, the Tracking Energy Development ("TED") Task Force, or other participants, deployment risks and challenges are also dynamic and emerging, such as with the most recent development around the Uyghur Forced Labor Prevention Act[2] that could impact the import of any goods or materials from that region of the world. Notwithstanding the full range of potential risks and challenges that could present themselves, CESA elaborates on potential solutions that could be pursued by the joint agencies in response to some of the more prominent ones facing the state's clean energy transition today. Though these comments are being submitted in response to a workshop hosted by the CEC, CESA hopes these ideas can be shared across all of the energy agencies and offices (CEC, CPUC, CAISO, DWR, Governor's Office) to explore or enact them in the appropriate venues and authorities given the renewed spirit of collaboration observed in response to near- and mid-term electric reliability challenges.

1. **Commodity price spikes and volatility and other inflationary pressures are likely to impact 2023 and beyond projects, and in response, contract re-openers and innovations should be explored.**

Rising commodity prices and global inflation have posed significant risks to existing contracts and projects,[3] driven by some combination of surging demand for lithium and other battery-grade metals to support the stationary energy storage and electric vehicle ("EV") markets, in excess of available lithium mining and processing facilities, as well as higher shipping costs due to higher oil costs and shipping backlogs from the post-pandemic recovery. Beyond lithium, other metals and materials face similar supply-demand imbalances. These factors have come together to put many energy storage contracts and projects at risk, turning profitable projects into ones that are uneconomic and face risk of delay, if not termination. As a rule of thumb, CESA shared how a $1/kg increase in lithium carbonate translates to a $1/kWh increase in lithium-ion batteries, so excluding balance of system costs, battery cost increase by more than 40% from a lithium carbonate price increase from $14/kg (Fall 2021) to $70/kg (Spring 2022). Most likely, with battery storage and equipment procurement occurring closer to commercial operations, projects coming online in 2023 and beyond are those that would be impacted.

These represent material and reasonably unexpected shocks that warrant CPUC and off-taker consideration of how contracted and procured projects can remain on its trajectory to coming online and avoid extreme liquidated damages that can deter investment in new energy storage resources. Especially as they are required for near- and mid-term electric system reliability and because some of these commodities are "unhedgeable" as relatively

[2] *See:* https://www.cbp.gov/trade/forced-labor/UFLPA?language_content_entity=en
[3] *See, e.g.*, lithium carbonate prices: https://tradingeconomics.com/commodity/lithium

nascent markets, contract "re-openers" or re-pricing of bids should be encouraged or pursued for energy storage projects under contract or in the process of negotiations. As part of these ongoing efforts, as well as on a going-forward basis for new contracts, the CPUC and off-takers should explore contract innovation that would allow for some degree of risk sharing of these unprecedented market swings. For example, contracts could enable a share of commodity price pass-throughs or indexing to the Lithium Carbonate ("LCE") price from the Shanghai Metals Market. Where reasonable, information sharing from buyers and sellers can facilitate these efforts.

2. **COVID-related lockdowns in China may cause some incremental delays for select projects coming online in 2022, but these challenges should wane over time.**

Like with a number of materials and goods, the recent COVID-related lockdowns in Q2 2022 to Chinese manufacturing facilities and ports have been disruptive to global supply chains, including for battery storage systems and other electrical equipment. However, as explained at the workshop, CESA believes that such disruptions are likely temporary in nature as lockdowns are relaxed or lifted as pandemic conditions wane and are only impact for extremely just-in-time procurement of energy storage equipment and supplies that were procured in late 2021 for deliveries in Summer 2022 or later in the year. In CESA's understanding, any associated delays may result in incremental delays on a day-by-day basis but not materially impact summer reliability overall. Of course, the global pandemic has been difficult to predict as COVID waxes and wanes at different times and locations, but it may be reasonable to assume that these risks can create short-term risks for project deployments. In this regard, these issues should nonetheless be tightly monitored, and the CPUC in particular should allow for some flexibility in deployment without imposing punitive penalties, particularly for contingency energy storage resources that are procured with very short lead time.

3. **The Commerce Investigation of the Auxin Petition will be impactful to hybrid and co-located projects coming online in 2023 and beyond, and California leaders should conduct strong outreach to federal authorities to get an expeditious determination.**

The Solar Energy Industries Association ("SEIA") articulated in great detail the impact to the number and installed DC capacity utility-scale solar projects, along with the MWh of storage attachments, that are impacted by the highly disruptive Commerce Investigation of the Auxin Petition. Overall, the outcomes of the investigation are hard to predict due to the retroactive application of duty deposit requirements, the retroactive duty collection system, and the mix of country-wide and supplier-specific duty rates, leading to uncertainty around which panels will be impacted and if so, by how much. As a result, as SEIA explained, projects have been delayed, and in some cases, canceled. Given that solar

and storage is often financed and contracted together, it is important to note that the risk imposed by this federal investigation is to both the solar and energy storage portions of hybrid and co-located projects.

Since panels were likely imported and onshore prior to the investigation initiation date (April 1, 2022) or the petition filing date (November 4, 2021) in order to meet Summer 2022 commercial operation dates, Summer 2022 reliability is not at risk, but this investigation will likely pose challenges for 2023 and beyond if a preliminary determination is not expeditiously resolved. By statute, the Commerce Department has up to 150 days to issue a preliminary determination (late August 2022), but it does not have to take the full allowed amount of time, where an expedited and much earlier preliminary determination could be made. Although this matter is very much outside the control of the joint agencies, CESA strongly recommends strong and concerted outreach by leadership to federal authorities to make a preliminary determination as soon as possible to support the state's and nation's clean energy transition and ensure reliability.

4. Continued enhancements to interconnection and deliverability allocation processes are needed to support timely deployment of energy storage projects coming online in 2023 and beyond.

Interconnection and deliverability allocation processes play a critical role in the contracting and deployment of new clean generation and energy storage resources across all timeframes. The CAISO and Southern California Edison Company ("SCE") presented on the current interconnection process, recently-adopted changes, and ongoing or future enhancements to facilitate these deployments – many of which are greatly appreciated and will support a more efficient process and facilitate contracting. While enhancements to the interconnection process will generally support projects in the 2024-2026 timeframes given that cluster study processes take 2-3 years, there may also be potential ideas to expeditiously interconnect additional capacity in the near term, such as in more flexibly imagining how operational solutions (*e.g.*, remedial action schemes) are modeled and utilized.

Since deliverability is a key feature of RA-eligible resources, revisions or enhancements to the deliverability study methodology can also go a long way to supporting timely energy storage deployment. For example, assumptions for energy storage dispatch for the secondary system need ("SSN") scenario could be modified in ways that reflect the realistic or rational operations of energy storage resources or less conservative contingency assumptions to "free up" deliverability and bring more RA-eligible energy storage online. CESA urges the joint agencies, the CAISO in particular, to consider revisions to these methodologies to support identified near- and mid-term electric reliability needs and risks.

Furthermore, following the interconnection and deliverability allocation process, the joint agencies should immediately create pathways to support timely construction of interconnection facilities and network upgrades. In addition to ensuring that CAISO and

utility interconnection teams are sufficiently staffed, have automated process where possible, and have the appropriate incentives, CESA recommends that the self-build option be allowed for interconnection customers to construct interconnection facilities and network upgrades. Rather than waiting for utility competitive contracting and coordination, the interconnection customer can simplify these processes and help initiate design, engineering, and procurement activities to avoid delays and "share in the burden" of bringing projects online. Simply waiting for utilities to take on this action pose risks to getting these projects up and running on time. So long as vendors meet applicable safety standards for EPC activities and utility specifications for any equipment upgrades, this option should be allowed, consistent with FERC Order No. 845.

5. Streamlined permitting processes through either the CEC or through local jurisdictions can support timely deployment of energy storage projects.

The TED Task Force presentation touched on permitting risks for new energy development given the large volume of projects seeking permitting review in 40 different counties. Naturally, as discussed at the workshop, there will be learning curves associated with battery storage technologies and associated fire or safety risks, particularly for counties and cities facing such permitting applications for the first time. Since permitting is typically pursued 12-18 months prior to expected commercial operation date, permitting review challenges will likely be impactful for projects coming online in 2023 and 2024.

While permitting typically falls within the scope of local authorities having jurisdiction ("AHJs"), there is a role that the joint agencies can play in helping to streamline the process *where needed*. From CESA's experience, some local counties and cities are highly experienced in reviewing energy storage projects and have streamlined processes in place, which the joint agencies should not interfere with. At the same time, there may be other less-experienced local AHJs where an *optional* centralized permitting process at the CEC could help facilitate energy storage project deployments – something that the Governor's May Revise includes for consideration. This opt-in process could be highly beneficial for larger facilities and offer a one-stop shop to reduce permitting times (*e.g.*, less than 270 days), in cases where local AHJs seek such paths and where developers opt for this process.

As such, CESA strongly supports the development of this opt-in CEC permitting process for clean generation and energy storage projects. We look forward to shaping such a process, including around applicability and criteria, if pursued based on the Governor's initial proposal.

6. Market and reliability operational issues facing energy storage projects must be closely and continuously monitored and timely addressed as issues arise to ensure delivered project capacity translates to operational capacity.

In addition to the physical deployment of clean generation and energy storage projects, the joint agencies should also maintain a focus on ensuring the delivered capacity translates to operational capacity. Otherwise, operational restrictions due to unintended CAISO market dispatch and optimization and/or limitations imposed by distribution utilities can limit the ability of procured and contracted capacity to deliver what has been planned for and forecasted. In this sense, if such issues arise and are not addressed, operational capacity shortfalls may emerge and would be overlooked in a more planning-focused needs analysis, as conducted by the CEC and CAISO.

First, we raise to the joint agency's attention the market dispatch and operationalization issues that some of the first-moving energy storage projects are encountering. For example, several energy storage projects in operations today have highlighted how local market power mitigation ("MPM"), as developed, adopted and implemented from the CAISO's Energy Storage and Distributed Energy Resources ("ESDER") Initiative, may not necessarily be working as intended. These CESA members have reported that the MPM process has resulted in economic bids to be replaced by multi-segment bid curves that may not be accurately tied to marginal costs, resulting in counterintuitive dispatch in earlier hours rather than the critically-needed net load peak hours. Similarly, an ongoing and unaddressed issue is related to multi-interval optimization ("MIO"), which often produces real-time dispatch instructions that are not aligned with the bid curves for storage resources under the Non-Generator Resource ("NGR") model. Although some of these challenges can be attributed to the natural learning process of having energy storage in operations for the first time in the CAISO market, these market dispatch and operationalization issues must be addressed to ensure that planned capacity is reasonably aligned with how such capacity is dispatched and delivered. Granted, these issues are teed up in the CAISO's existing Energy Storage Enhancements ("ESE") Initiative, as well as the recently-launched Price Formation Enhancements ("PFE") Initiative, but we raise these issues here as another important matter for the joint agencies to be aware of and to track progress on these fronts as one of the execution-related challenges to be addressed.

Second, for distribution-connected energy storage resources under the Wholesale Distribution Access Tariff ("WDAT/WDT"), issues are emerging around operational charging limitations being applied to such projects. Due to the greater radial nature of distribution networks, such issues can be expected to some degree, but the degree to which such charging limitations are not granular or based on excessively conservative assumptions can jeopardize critical system and local reliability if energy storage is unable to flexibly charge to its full capacity. For example, if energy storage resources are able to charge on an as-available basis, charging restrictions applied on a 24x7 basis can be excessive in not recognizing system conditions or specific times of the day where more charging can be allowed safely and reliably (*e.g.*, mid-day solar hours), rather than for the most limiting hour of the day. In cases where "firm" or "partial firm" charging distribution service is offered,

the timelines to conduct these load-side studies can also pose challenges in the form of upgrade costs or interconnection study timelines that can create significant risks to project deployment, especially if such studies are not conducted in a reasonable way. It is imperative that the CAISO be aware of these issues from an operational perspective and for the CPUC to be heavily involved in these WDAT/WDT study processes to ensure reasonable studies are conducted and rational and granular restrictions are applied where appropriate. Along the same lines, the CPUC must also advance the DERMS capabilities of the distribution utilities.

With all that said, CESA discusses the above to underscore how each of these operational challenges and risks must also be addressed to realize the capacity benefits of planned and procured energy storage resources.

7. Greater utilization of BTM energy storage recognizing not only load reductions but also export capacity can support both normal and contingency capacity shortfalls.

Much of the new resource capacity additions come from utility-scale in-front-of-the-meter ("IFOM") solar and energy storage, but as a risk mitigation matter and to support near-term reliability needs, CESA urges the joint agencies, particularly the CPUC, to enable greater deployment and utilization of BTM energy storage resources, which can support immediate needs across the entire 2022-2026 period.

Hybrid and standalone BTM battery storage resources can come online in an expeditious manner through Rule 21 interconnection processes and could have the ability to deliver incremental capacity if policies and methods recognized the exports from these resources from both an operational performance and planning capacity perspective. However, current policies limit or foreclose such opportunities when exports are not recognized under demand response ("DR") constructs and forward planning capacity valuation methods are not in place to directly measure and attribute capacity value inclusive of both load reductions and exports, leading to stranded capacity value for existing systems or sub-optimal system design to minimum customer loads for new systems. While appreciative of the Emergency Load Reduction Program ("ELRP") in recognizing exports, it is still limited in scope as a pilot and for use only in contingency events (rather than on a day-to-day basis as normal planning capacity) and presents uncertainties on how sub-metering and direct measurement will work.

Furthermore, there is a tremendous opportunity to leverage the storage capabilities embedded in EVs and chargers, as well as in thermal storage systems. The former presents tremendous opportunity to leverage the significant ratepayer-funded EV and infrastructure investments to enable additional storage capacity if various policies and programs are developed. Meanwhile, the latter presents significant opportunity to provide longer-duration energy storage and presents opportunities to bring online capacity quickly by avoiding the interconnection process altogether. These two resource types should not be overlooked and

deserve focus from the joint agencies in an all-of-the-above approach to address system capacity and contingency needs.

8. Aggressive development of diversity in the energy storage portfolio can support MTR needs, mitigate mid-term supply chain risks, and position the state for long-term deep decarbonization.

Four-hour or generally shorter-duration lithium-ion battery storage technologies will significantly advance the state's decarbonization goals and reliability needs, which have been affirmed in multiple capacity expansion modeling conducted as part of the CPUC's IRP and the Joint Agency's Senate Bill ("SB") 100 results. However, to mitigate many of the execution risks above, as well as to meet clear and identified needs for energy storage resources with greater duration, the joint agencies must collectively focus on commercializing and deploying non-lithium long-duration energy storage ("LDES") resources. Without repeating what we have detailed in comments in CEC Docket No. 19-ERDD-01 in response to a workshop on advancing non-lithium-ion LDES technologies,[4] CESA underscores that not only is the need and value of LDES resources clear (as evidenced from 2030 and 2045 modeling) but they also present opportunities to diversify supply chain and project execution risks.

In this way, CESA urges the joint agencies, with the CEC in particular, to support the approval of the $380 million allocated in the Governor's January budget proposal (and maintained in the May Revise) for a program focused on commercializing non-lithium-ion LDES technologies. In the aforementioned comments to the CEC, CESA recommended that the program (if funding allocations are approved) should focus on first-of-its-kind commercial projects that can support real grid obligations or needs rather than pilot or demonstration projects and advance projects of all sizes, including larger ones, that can help provide operational data that improves the financeability and insurability of LDES resources. Going through this process will also advance the familiarity with the deployment process, including permitting, interconnection, and contracting.

IV. CONCLUSION.

CESA appreciates the opportunity to provide these comments and feedback on the May 20, 2022 workshop and look forward to collaborating with the CEC and other stakeholders in this docket.

[4] *See* https://efiling.energy.ca.gov/GetDocument.aspx?tn=242834&DocumentContentId=76399

Respectfully submitted,

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