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CESA's Comments Regarding the Joint-Agency Workshop on the Diablo Canyon Power Plant

Additional submitted attachment is included below.

August 19, 2022

Email to: docket@energy.ca.gov
Docket Number: 21-ESR-01
Subject: CESA's Comments regarding the Joint-Agency Workshop on the Diablo Canyon Power Plant

Re: Comments of the California Energy Storage Alliance Regarding the August 12th Joint-Agency Workshop on the Diablo Canyon Power Plant

Dear Sir or Madam:

The California Energy Storage Alliance ("CESA") appreciates the opportunity to comment on the Joint-Agency Workshop held on August 12, 2022 ("Workshop") to discuss the future of the Diablo Canyon Power Plant ("DCPP") in the context of California's clean energy future and the mid-term electric reliability outlook.

CESA is a 501(c)(6) organization representing over 120 member companies across the energy storage industry. CESA is involved in a number of proceedings and initiatives regarding long-term planning, providing material feedback on how energy storage can support a more reliable, cleaner, and more efficient electric grid. CESA is also actively engaged in advancing legislation and funding to bolster development of emerging storage technologies within California, particularly long-duration energy storage ("LDES"). Furthermore, CESA has actively engaged in first-in-class modeling studies to better understand the need and opportunity for energy storage of all kinds and durations given Senate Bill ("SB") 100 targets. As such, our background and experience providing technical, legislative, and policy insights are of particular relevance to this subject.

I. INTRODUCTION & SUMMARY.

CESA appreciates the California Energy Commission ("CEC") hosting the Workshop alongside the Governor's Office and Legislators to discuss the future of DCPP as well as the complexities surrounding mid-term reliability planning. As the impacts of anthropogenic climate change materialize with increased magnitude and frequency, planning to serve load across all hours of the year has gradually become more complex. The rolling blackouts of 2020, the result of a mix of extreme regional weather conditions and suboptimal utilization of in-state resources, illustrate the importance of retaining a sufficient and reliable fleet of assets. In addition, as California moves towards deep decarbonization, new risks beyond the control of sellers and buyers of new assets have emerged. Supply chain constraints caused by pandemic-related demand and delays and increased commodity prices due to the uncertainty caused by the war in Europe have put added pressure on the scheduled deployments of new renewable and storage assets. Given these considerations, the Workshop was convened as a venue to evaluate the potential need for and the merits of extending the operational license of DCPP beyond its originally agreed upon retirement date of 2024 for Unit 1, and 2025 for Unit 2.

CESA welcomes the perspectives shared by State Legislators, local government officials, public servants, and staff from the CEC and the California Independent System Operator ("CAISO"). As underscored during the Workshop, the questions surrounding DCPP are diverse and multi-faceted, going beyond the narrow issue of system reliability and touching upon local governance, labor impacts, and other community concerns. In this context of evolving risks and solutions, the CEC and the Governor's Office should provide further clarity on the likelihood of resource insufficiency, as well as the potential impacts of each of the risks mentioned during the Workshop. Furthermore, while supportive of the Joint Agencies and Governor's Office considering means to mitigate potential resource insufficiency in the mid-term, CESA encourages consideration of all possible solutions, not just an extension of DCPP, and recommends that the relative costs and benefits and probability of risks be carefully weighed prior to making a decision. Finally, if the Joint Agencies and the Governor's Office deem it necessary to explore an extension of DCPP, said extension should have a clear end-date, minimizing any extension where possible given the range of other clean, reliable, and flexible solutions available today and in the near future, including energy storage resources. As such, CESA's comments can be summarized as follows:

- The Joint Agencies and the Governor's Office should coordinate to produce a concise report that details the probability of a resource shortfall in the 2024-2030 period, the potential magnitude of these shortfalls, and the key drivers behind the shortfalls.

- The Joint Agencies and the Governor's Office should explore other solutions to the potential shortfall, including no-regrets investments in long-duration energy storage ("LDES") resources.

- If an extension of DCPP is needed since the probability and magnitude of shortfalls prove to be material and other solutions have been exhausted, the extension should have an end-date no later than December 31, 2030, if not earlier.

- Procurement pursuant to Integrated Resource Plans ("IRPs"), as authorized, should proceed on pace and as planned as based on the presumed retirement of DCPP, given the uncertainties around DCPP extensions and commitment to plans and market development already underway.

II. COMMENTS.

A. The Joint Agencies and the Governor's Office should coordinate to produce a concise report that details the probability of a resource shortfall in the 2024-2030 period, the potential magnitude of these shortfalls, and the key drivers behind the shortfalls.

During the Workshop, the CAISO and the CEC presented forecasts of potential capacity shortfalls across 2022-2027. CAISO presented staff analysis utilizing 2021 Preferred System Plan ("PSP"), as adopted by the California Public Utilities Commission ("CPUC") within its Integrated Resource Planning ("IRP") proceeding. Importantly, the CAISO's process assumed full achievement of the PSP, without delays. Using the PSP as the

baseline and targeting a 1-in-10 loss-of-load expectation ("LOLE"), the CAISO found that the system might face a deficiency of approximately 1,800 MW in 2022 and 2025. The CAISO noted that this gap, however, may increase if supply chain or climate risks materialize.

The CEC highlighted that the risks for insufficiency relate to three sources: (1) variance that has not been historically captured through planning venues; (2) supply chain concerns; and (3) wildfire risks. Regarding the first issue, the CEC noted that limited data makes it difficult to understand and predict the impacts of climate change on weather, electric demand, and supply. Given the novel nature of these risks, the CEC noted that current planning processes are not properly equipped to plan for this new level of variance and volatility. To capture these risks, the CEC revised *ex post* the target planning reserve margin ("PRM") of their deterministic stack analyses from 15% to 22.5%. On the second source of risk, the CEC highlighted that the path to 100% clean energy will require higher build rates of solar photovoltaic ("PV") generation, wind generation, and storage resources. In this context, the increased likelihood of procurement delays due to supply chain limitations and uncertainties also poses significant risks. To capture these risks, the CEC introduced delays to planned resources, assuming 20-40% cumulative delay in authorized procurement. Finally, to capture wildfire risks, the CEC added a 4,000 MW need to reflect the potential resource or transmission losses related to extreme weather-driven wildfires. The inclusion of all these risks results in a potential shortfall of well over 2,500 MW prior to the inclusion of emergency resources, reaching upwards of 5 GW for 2022.[1]

As summarized above, the analyses presented during the Workshop are diverse in their methods and complex in their implications. While retaining grid reliability requires swift action, the issue of extending the operating license of DCPP merits more rigorous analysis and clear communication. As such, in order to ease public understanding of the matter and allow for substantial feedback, CESA urges the Joint Agencies and the Governor's Office to coordinate to quickly produce a concise report that details the probability of a resource shortfall in the 2024-2030 period, the potential magnitude of these shortfalls, and the key drivers behind the shortfalls. Both the CEC and CAISO should expand upon their research and provide clearer description of their data, methods, and conclusions, as well as factors driving their assumptions for supply chain delays. The report shall provide an explanation to the difference in methods and estimations. In particular, the report should detail the methodology behind the 4,000 MW adder for fire risk, discerning what data was used to arrive at this number and demonstrating its reasonableness. The CEC should also expand upon the definition of emergency resources, as well as the calculation of the capacity attributed to said category.

In the absence of more extensive stakeholder processes, the aforementioned report is needed to ensure that a substantial decision such as DCPP extension is truly prudent and reasonable, especially as DCPP retirement has been in the works since the CPUC's 2016 decision to transition toward other clean resources. Beyond the grid reliability need as described above, other important pieces of information are needed on the feasibility and estimated costs of relicensing, updating systems and equipment, etc. These questions were

[1] Workshop materials, at 11.

well-articulated by Senator Laird at the Workshop and must be addressed, even if done on an expedited basis.

B. The Joint Agencies, the Legislature, and the Governor's Office should explore other solutions to the potential shortfall, including activation of the appropriated $240M in long-duration commercialization funds in the 2022-2023 CA budget.

During the Workshop, the Joint Agencies noted that load and weather variance paired with the potential for delays in the development of new resources could result in capacity shortfalls of approximately 1,800 MW to meet a 15% PRM and over 2,500 MW to meet a 22.5% PRM across the 2022-2026 period. In this context, the CEC underscored that extending the operating license of DCPP could hedge against potential risks and contingencies faced by the electric sector, thus minimizing the likelihood of loss of load events between 2022 and 2026.

While requesting further clarity regarding the likelihood and magnitude or shortfalls, as well as the merits of extending DCPP's operating license, CESA is supportive of the CEC, CAISO, and the Governor's Office consideration of means to minimize the probability of load shed. As noted by several commenters throughout the Workshop, resource insufficiency is not a risk that should be overlooked as blackouts can and would have material consequences on the population, particularly for the most vulnerable Californians. This being said, the Joint Agencies, the Legislature, and the Governor's Office would be amiss if, in face of a multitude of risks, they were to explore just one solution to mitigate them.

Given the present uncertainty, diversification of risk is essential. As such, the Joint Agencies the Legislature, and the Governor's Office should consider all options that may provide firm power for the periods of greater grid need, prioritizing those that align with the zero-carbon future outlined by Senate Bill ("SB") 100. Authorization and activation of already agreed-upon budgeted funds for LDES commercialization will guarantee additional capacity with helpful reliability support functions – *e.g.*, more than 8 hours of energy output perhaps on a daily basis. This would build upon the California State Legislature's significant step towards diversifying the storage toolkit that will be available to the CAISO when serving load. Via the enactment of Assembly Bill ("AB") 205, $140 million was appropriated by the CEC to fund its LDES Program. CESA strongly supported this funding allocation, as it will spur the development of the assets necessary to retain reliability while accelerating California's decarbonization efforts. This type of transformative, forward-looking, risk-mitigating spending should be considered in conjunction to the evaluation of a potential extension of DCPP's operating license. Specifically, CESA recommends the Joint Agencies and the Governor's Office to collaborate with the California State Assembly to evaluate the merits of allocating up to an incremental $240 million for LDES funding and advocate to ensure its approval via budget trailer bill as a no-regrets investment for the achievement of our zero-carbon future, as evidenced by the findings of the 2021 SB 100 JAR and *Long Duration Energy Storage for California's Clean, Reliable Grid (2020)*. Even for the $140 million already allocated to the CEC's LDES Program via AB 205, the final program design should aim to consider the commercialization of a wide range of LDES projects, including

those that can substantially contribute to mid-term reliability and capacity needs. After all, the resource-specific capacity targets for firm zero-carbon and LDES resources were set in D.21-06-035 to address DCPP replacement.

In this context, the findings of planning exercises across the state indicate that LDES will be critical. Results from the 2021 SB 100 Joint Agency Report ("2021 SB 100 JAR"), the first statewide planning effort to estimate the feasibility, cost, and pathways to achieving SB 100, show that California will need to develop all 4 GW of the LDES assumed to be available to meet 2045 goals. Importantly, the 2021 SB 100 JAR models LDES in a very narrow fashion, equating LDES exclusively to pumped hydro storage ("PHS"). As a result, the model has a relatively low availability cap, thus potentially underestimating the need for LDES. To better assess the potential need for LDES in California, CESA partnered with Strategen Consulting for the study *Long Duration Energy Storage for California's Clean, Reliable Grid (2020)*. This study leveraged first-class capacity expansion modeling capable of identifying the value of inter-day energy shifting through a 8,760-hour optimization and concluded that California will need between 45 and 55 GW of LDES by 2045 to achieve its decarbonization goals while retaining reliability.[2]

In addition to these recommendations for LDES Program funding and program design, we also underscore many other solutions that could collectively help address the mid-term reliability concerns and risks, either in place of DCPP extension or in limiting the scope and length of DCPP extension:

- Increase the deployment of and maximize the utilization of behind-the-meter ("BTM") energy storage resources, including their export capabilities

- Enable greater amounts of energy storage deployments by streamlining CAISO interconnection processes with greater data transparency, additional staffing and resources, and more flexible allowances for self-building of interconnection facilities

- Unlock greater amounts of transmission deliverability by modifying study methodologies in reasonable ways

C. If an extension of DCPP is needed since the probability and magnitude of shortfalls proves to be material and other solutions have been exhausted, the extension should have an end-date no later than December 31st, 2030.

During the Workshop, several representatives and local officials provided their perspectives regarding the potential extension of DCPP's operating license. Senator Laird noted that extending DCPP's operating license faces several challenges, from issues regarding the global supply of uranium to the uncertainty faced by the people of San Luis

[2] *See* Strategen Consulting, *Long Duration Energy Storage for California's Clean, Reliable Grid*, 2020. Available at: https://static1.squarespace.com/static/5b96538250a54f9cd7751faa/t/5fcf9815caa95a391e73d053/1607440419530/LDES_CA_12.08.2020.pdf

Obispo regarding their safety and the future of their community. Supervisor Ortiz-Legg underscored that an extension to DCPP's operational license should not be taken lightly and that safety in operations and in the storage of spent fuels must be continually evaluated, funded, and supported. Overall, the contentious nature of this issue was demonstrated by the attendance of over 600 participants and the three hours of public comment following the Workshop. A number of members of the community surrounding DCPP noted that a potential extension would be a betrayal of trust given the agreement that was reached with Pacific Gas & Electric ("PG&E").

As noted in Section B of these comments, the Joint Agencies and the Governor's Office should coordinate with the California State Legislature to explore other means to mitigate reliability risks in a manner aligned with California's overarching climate goals. This being said, if after thorough evaluations of other alternatives and consideration of community concerns the DCPP is deemed necessary for reliability, the Joint Agencies and the Governor's Office should give certainty to the community and adopt a clear end-date for said extension. Acknowledging that reliability concerns beyond 2030 can be met with new resources directed to be procured through the CPUC's IRP proceeding, DCPP's contribution to reliability should not be necessary past that year. As such, CESA recommends that, if an extension of DCPP is needed since the probability and magnitude of shortfalls proves to be material and other solutions have been exhausted, the extension should have an end-date no later than December 31, 2030, if not earlier.

D. Procurement pursuant to IRPs, as authorized, should proceed on pace and as planned as based on the presumed retirement of DCPP, given the uncertainties around DCPP extensions and commitment to plans and market development already underway.

Regardless of the merits, extensions to the operating license of DCPP are highly uncertain, with numerous regulatory, financial, technical, and community engagement steps needed to occur satisfactorily across a short period of time. There is a non-zero probability that DCPP extensions are inviable. As such, market development for generation and capacity solutions like energy storage must remain strong, established, and viable. A main driver for energy storage market development is the long term signal of energy storage needs in California. Stable signaling will decrease costs while ensuring successful storage and renewable energy developments. CESA urges consideration whereby these signals are clearly and unequivocally maintained. Specifically, commitments to honor and build off of established IRP signals will be critical.

III. CONCLUSION.

CESA appreciates the opportunity to provide these comments and feedback on the Workshop. We look forward to collaborating with the CEC and other stakeholders in this docket.

Respectfully submitted,

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