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## Comments on SB 846 Workshop - Load Flexibility Goals

Please accept PG&E's comments to the April 19, 2023 Workshop on Load Flexibility Goals.

*Additional submitted attachment is included below.*

Pacific Gas and Electric Company

**Jennifer Privett**
State Agency Relations
jennifer.privett@pge.com

1415 L Street, Suite 280
Sacramento, CA 95814
916-698-8033

May 3, 2023

California Energy Commission
Energy Assessment Division, Energy System Reliability
Docket Number 21-ESR-01
517 P Street
Sacramento, CA 95814

**Re: Pacific Gas and Electric Company's Comments on the Lead Commissioner's Workshop on Clean Energy Alternatives for Reliability (Docket Number 21-ESR-01)**

Pacific Gas and Electric Company (PG&E) appreciates the important work in support of electric grid reliability undertaken by all state agencies and other key stakeholders, including the California Energy Commission (CEC), California Independent System Operator (CAISO) and the California Public Utilities Commission (CPUC), and the CEC's efforts to identify and discuss clean energy resources to serve California's electric needs and transition the electric sector to a decarbonized grid in support of Senate Bill (SB) 846.

Senate Bill 846 requires the CEC to adopt a load-shifting goal to reduce net peak electrical demand in consultation with the CAISO and the CPUC, and to recommend policies to increase demand response and load shifting that do not increase greenhouse gas (GHG) emissions or increase electric rates. The load-shifting goals are expected to be adjusted biennially in the CEC's Integrated Energy Policy Report (IEPR) and consider findings of the 2020 Lawrence Berkeley National Laboratory (LBNL) report on the Shift Resource through 2030, as well as other relevant research.

PG&E believes the energy market dynamics over the next 10 years will experience changes that will require stronger coordination between supply and demand and a comprehensive load management approach that is based on customers' demand flexibility while ensuring reliability and affordability. This will require engagement and coordination across rate design, energy efficiency (EE), and demand response (DR) to provide a wide range of grid services, including load shed and load shift. PG&E believes comprehensive programs designed to provide EE and DR benefits, combined with the appropriate rates, technology, and automation, have the potential to produce greater value to customers, through greater load impacts at lower cost, than a single program alone. PG&E appreciates the strong collaboration between the CEC,

CPUC, and CAISO in developing load flexibility goals, and PG&E agrees that such collaboration is necessary to develop a comprehensive portfolio of coordinated load management solutions that provide a streamlined and enjoyable customer experience to reliably and cost effectively achieve our 100% net clean energy system future.

PG&E's comments focus on areas where additional information and clarity is needed to understand if the CEC's draft 2030 load shifting goals, as described in the CEC's April 19 workshop, are appropriate and reasonable. Our comments address the size and scope of programs that qualify as load shifting today, the CEC's provision of model assumptions and inputs, how the goal will be allocated across LSEs, whether there will be sufficient regulatory and funding support to achieve these goals by 2030, and the potential consequences if LSEs do not achieve the load shift goal. PG&E looks forward to continuing discussions with all stakeholders at the appropriate venues to ensure the State meets its load flexibility goals, while also meeting its reliability, climate, and affordability goals.

**Setting realistic goals requires a solid foundation of historical load shifting capacity and a clear scope of load shifting resources.**

To ensure the appropriate inputs were used in the development of load shifting goals, PG&E would appreciate a better understanding of how the model assumptions, data sources, and inputs were developed historically. PG&E's initial assessment of the CEC's estimate of current capacity indicates a much higher level than expected, and this directly impacts the achievability of the goal. For instance, taking the Emergency Load Reduction Program (ELRP) to be the primary emergency-only program, the 800 MW "2022 Estimate"[1] likely refers to customer- and aggregator-based nominations rather than the actual performance of those resources in 2022. For PG&E, nominations exceeded 500 MW, but the recently filed load impact results suggest much lower performance below 100 MW.[2] Additionally, PG&E requests supporting information on the 1,200 MW of Time-of-Use (TOU) rate impacts and the 7 MW of impact from programs optimizing load. PG&E is unable to comment on the validity and reasonableness of these values unless the underlying assumptions and data sources are provided.

PG&E believes that the scope and composition of resources that provide targeted load reductions should be more clearly differentiated from resources that should provide load shift – which at times, appear to be discussed and referenced interchangeably. For instance, some load-modifying TOU rates with critical peak pricing (CPP) programs, economic supply-side DR, and most reliability supply-side DR, emergency-only programs, and back-up generation-based programs offer a valuable grid service and support load flexibility, but they are typically

[1] See CEC workshop presentation, slides 23 and 39.
[2] PG&E 2022 ELRP Load Impact Report, CALMAC ID-PGE0486, April 3, 2023, p. 118. https://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=742932. See also https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/emergency-load-reduction-program/elrp-2022-program-data/pge-elrp-hourly-with-lip-values.xlsx.

programs that provide much more "load shed"[3] than "load shift".[4] Growing these programs does not necessarily support "load shift," which is typically described as the movement of load from peak hours to off-peak hours. PG&E would appreciate a discussion of these terms in a subsequent workshop and how they are being applied to the load shifting goals.

**Clarification is necessary on model assumptions to better evaluate reasonableness of forecasts used to determine load shift goals.**

In addition to requesting clarity and justification for the assumptions regarding historical estimates of load flexibility, PG&E requests that the CEC provide more access to the underlying source data supporting forecasted values, including the yet-to-be-released LBNL DR Potential Study Phase 4 report and, in particular— the assumptions that were developed, including but not limited to, enrollment and technology enablement. This will be important for parties to decide whether the inputs to the model are appropriate and reasonable. PG&E also requests that the CEC clarify how these goals will be allocated across LSEs, so that stakeholders can evaluate whether the inputs are appropriate for their customers.

PG&E also notes that there have been very limited pilots that specifically evaluate load shifting programs and from which learnings could be drawn to better design scalable and cost-effective programs. PG&E is planning to launch a virtual power plant (VPP) pilot with Sunrun this summer; however, the results of this pilot will not be available until well after these load shift goals are expected to be adopted.

**Achieving these goals will require regulatory coordination and funding authorizations that need to be clearly outlined in order to meet load shift goals by 2030.**

While it is helpful that the CEC proposed funding for certain categories of load flexibility-related priorities,[5] PG&E requests that the CEC elaborate on the allocation of the proposed funding resources across LSEs and alignment with CPUC regulatory support. For instance, IOU proposals for dynamic (load flexible) rates are expected to be filed in each IOU's next GRC (anticipated in late 2024 for PG&E); proposals associated with DR programs in the next DR applications (anticipated to be the next cycle for 2028-2032);[6] and proposals that impact transmission and distribution infrastructure planning processes may need to be coordinated with the High DER

[3] LBNL DR Potential Study Phase 2 Final Report, page 1-2, defines Shed as "loads that can be curtailed to provide peak capacity and support the system in emergency or contingency events—at the statewide level, in local areas of high load, and on the distribution system, with a range in dispatch advance notice times."
[4] LBNL DR Potential Study Phase 2 Final Report, page 1-2, defines Shift as "DR that encourages the movement of energy consumption from times of high demand to times of day when there is a surplus of renewable generation. Shift could smooth net load ramps associated with daily patterns of solar energy generation."
[5] See CEC workshop presentation, Slide 17.
[6] PG&E understands that a program must be launched, load impacts need to be developed, and only then will the CEC consider including it in its load forecast, resulting in a several year lag before the program can be counted as a load-modifying DR resource.

Future OIR (R.21-06-017).[7] New program designs take time to properly research, develop, pilot, evaluate, modify, and scale, and work needs to begin now to achieve scalability in 2030.

**While some of the CEC's policy recommendations are helpful, PG&E disagrees that others will drive meaningful capacity.**

PG&E supports many of the load modifying resource recommendations as they set the stage for what is necessary to achieve load shifting goals.[8] However, it will be challenging to achieve significant growth in this area by 2030 if new dynamic rate designs are not widely adopted across customer classes, as envisioned for California. The experience in other jurisdictions does not suggest an easy shift from the current landscape with less than 2% of residential customers at only two utilities (Ameren and ComEd) on RTP rates, and similar penetrations observed for PG&E's SmartRate residential dynamic rate to a future with much greater participation and load shift.[9]

PG&E does not wholly support the Resource Adequacy (RA) recommendations, nor agree that they will lead to significant growth. First, PG&E supports the joint agencies' focus on resolving performance issues and the need for ensuring reliability of load shifting and load shedding resources, but PG&E disagrees that a new DR qualifying capacity (QC) counting methodology is a driver for MW growth. Growth in existing programs is based on customer acquisition and deepening load impacts, and PG&E remains concerned that the incentive-based approach will only lead to higher inflation of capacity forecasts, rather than real performance.[10] Second, CEC staff stated during the April 19 workshop that DR "does not benefit from public support." PG&E would like to clarify that much of the funding comes from ratepayers and that it is important to require that load flexible programs are cost effective, reliable and measurable, and provide grid services that support affordability. Third, it is also unclear how a CEC interval meter database will support growth given existing data sharing platforms.

In terms of emergency and incremental programs, PG&E reiterates its earlier comments regarding the applicability of these program types for a load-shifting goal, when many of these programs provide much more load shed than load shift.

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[7] Decisions in this proceeding are expected in 2024 and 2025, and significant changes to the Distribution Planning Process typically take a year or two to implement.

[8] See Slides 41-42, "Support hourly and other dynamic pricing – CalFUSE; Encourage alternative rate and program designs that incentivize load shifting; Provide incentives for load shifting technologies paired with dynamic rates; Deploy information infrastructure to support load shifting – Market-Informed Demand Automation Server (MIDAS); Adopt standards to enable appliance operations to be shifted, scheduled, or curtailed – Flexible Demand Appliance Standards (FDAS); Complete deployment of advanced metering infrastructure (AMI) to support load shifting".

[9] See A.19-11-019, (PG&E-RTP-1), Chapter 2 for results of EPRI RTP Benchmarking Study with regulated electricity suppliers in the United States.

[10] For more information, see PG&E's comments in response to the Qualifying Capacity of Supply-Side Demand Response Working Group Final Report, submitted December 20, 2022, in Docket 21-DR-01.

PG&E anticipates that the largest magnitude of load shifting is expected to be attributable to EV charging load, yet many EV owners are already charging outside of peak times. PG&E would like to understand how this load can be best measured and included in assessing progress toward achieving the load shifting goal.

Lastly, PG&E requests that the CEC clarify what will occur if an LSE does not achieve its share of the load shift goal (if the goals are allocated to specific LSEs) or if the state does not achieve the load shift goal (if the goals are not allocated to specific LSEs).

**Conclusion**

PG&E requests that the CEC provide additional information to allow PG&E and others to better understand and more accurately assess if these load shifting goals are appropriate and reasonable. This includes additional information on model assumptions and inputs, better understanding of the current state of load shifting/flexibility programs and what should be considered in scope, how the goal will be allocated across LSEs, whether there will be sufficient regulatory and funding support to achieve these goals by 2030, and what will occur if the load shift goals are not achieved.

PG&E appreciates the opportunity to comment on the CEC's workshop on clean energy alternatives for reliability and looks forward to working with the CEC and other state agencies. Please reach out to me with any questions.

Sincerely,

Jennifer Privett
State Agency Relations