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SDG&E and SoCalGas SB100 Next Steps Transmission Workshop Comments

Additional submitted attachment is included below.

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August 11, 2021

California Energy Commission
Docket Office
1516 Ninth Street
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RE: San Diego Gas & Electric Company and Southern California Gas Company Joint Comments on the SB 100 Joint Agency July 22, 2021, Next Steps for Resource Build Workshop - Transmission; Docket No. 21-SIT-01

Dear Commissioner Douglas, Commissioner Gunda, President Batjer, Commissioner Rechtshaffen, Commissioner Houck, President Mainzer, and Vice President Millar,

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (together, Sempra Utilities) appreciate the opportunity to submit comments regarding the July 22, 2021, Next Steps for Resource Build Workshop on Transmission Planning for Senate Bill 100 (SB 100) jointly hosted by the California Energy Commission (CEC), California Independent System Operator Corporation (CAISO), and California Public Utilities Commission (CPUC).

The Sempra Utilities are committed to enabling and accelerating the transition to zero-carbon electricity on behalf of our customers and the communities we serve. We support the SB 100 report, Integrated Resource Planning (IRP), and 20-Year Transmission Outlook efforts as they serve as a starting point to provide high level estimations of the costs, multiple pathways, procurement planning and evaluation of grid feasibility to achieve zero-carbon electricity.

From the workshop and the final SB 100 report, it is clear to Sempra Utilities that the goals set forth in SB 100 call for a complete transformation of the way energy is generated, delivered, and consumed. This call to action requires a massive infrastructure overhaul that can only be accomplished by adopting a multifaceted approach that prioritizes reliability, flexibility /technology inclusivity, and cost minimization. Further, the August 2020 reliability events confirm that to preserve reliability we must assure an adequate and flexible energy supply consisting of a mix of technologies, routed to load centers by transmission, and clean fuel as we continue to shape the paths to achieve California's 100% zero-carbon electricity goals. Similarly, evidence of severe and systemic economic disparities, heightened by the recent pandemic confirms that we must minimize costs, especially for customers least able to afford it. And we must do these things even as we push to achieve decarbonization.

We offer the following suggestions that focus on the following three key pillars: reliability, flexibility/technology inclusivity and cost minimization supported by more frequent analysis/reporting as necessary considerations for next steps in the SB 100 implementation process.

SB 100's success hinges on reliability, adequate transmission and land-use planning.

SDG&E and SoCalGas appreciate the increased attention and collaborative effort given to transmission planning. The coordination between the CEC, CPUC, and CAISO is especially encouraging as this collective effort is critical to secure that efficient and low-cost delivery of clean electrons to homes and businesses are achieved in time to meet growing demand with new generation. Many factors must be considered when planning California's 2045 transmission and distribution grids. Here are a few that the California Air Resources Board (CARB), CEC, and CPUC (the SB 100 Joint Agencies), as well as the CAISO should include in their planning, modeling and analysis:

- SDG&E and SoCalGas echo the concerns made by Erica Brand of the Nature Conservatory that land assessments be conducted before finalizing plans for resource build and transmission lines. As an example, transmission line projects, in some cases, require approximately 10 years to permit and complete. Such long-term plans should be based on a realistic view of available land for resources and transmission.
- SDG&E and SoCalGas also share the concern of multiple stakeholders that transmission planning needs to go beyond imports to the CAISO grid. Planning needs to include delivery of clean electrons to load centers.
- When planning energy storage resources for all areas, the SB 100 Joint Agencies and CAISO should heavily consider the "Load Serving Capability with Energy Storage" studies performed in CAISO's Local Capacity Requirement (LCR) and Transmission Planning Process (TPP) processes. These studies analyze the amount of energy storage resources that the LCR areas can accommodate from a charging perspective. Import and generation capabilities are considered (via a "stacking" methodology), as these are important factors that will define charging capabilities and transmission needs. Transmission upgrades should be considered and planned with plenty of lead-time for development, since initial indications of this study are that certain LCR areas may not be

able to charge energy storage sufficiently while serving the area load. Further, CAISO should utilize hourly modeling, to ensure sufficient transmission capacity is planned for energy storage.

- Mapping resources more closely to load regions has significant advantages. If, for example, most of the resources are located in the northern part of the CAISO system, the lack of resiliency and diversity of location can pose a serious threat to the reliability of the entire CAISO system. As an example, if a major natural event (such as a wildfire or earthquake) occurs in proximity to where resources are located, the result may be an outage of such resources or insufficient capacity back to load centers. This point is emphasized considering eight of the largest Californian wildfires have occurred in the last four years (https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf). One way the CAISO and the SB 100 Joint Agencies could mitigate this, in part, could be to commensurate and factor-in commercial interest throughout the system. This can be done by using a resource allocation ratio based on the CAISO's Generation Interconnection (GI) Queue to assign resources to each Transmission Access Charges (TAC) area geographically. The result would likely be greater locational diversity and resiliency.
- Efforts should continue to enhance making modeling clearer, including the process to map Transmission Capability Estimates developed by CAISO to their respective RESOLVE renewable zone. Understanding the nuances behind this process will allow stakeholders to potentially develop and propose more economic, efficient, and environmentally sensitive solutions to support the SB 100 future.

All pathways and portfolios to SB 100 should support flexibility and technology inclusivity

- SDG&E and SoCalGas support technology neutrality and as such believe that all technologies, existing and emerging, should be considered as potential contributors to reaching SB 100 targets. California's Transmission Planning should also be technology agnostic. Transmission lines should be built to encourage and accept a diversity of resource types and resource locations to connect to the grid. Synergies with different resource types should also be considered when planning the future grid. Modeling 8760 hours in transmission planning, for example, could highlight potential synergies between a diversity of resources that generate at different hours.
- To support reliability and flexibility, CAISO and the SB 100 Joint Agencies should ensure that the future Transmission system supports the transport of electricity from dispatchable electric generators (DEGs). As has been noted by the CPUC's Integrated Resource Planning, California Air Resources Board's Report on Achieving Carbon Neutrality in California, and the Senate Bill 100 Joint Agency Draft Report, the gas system provides reliability needed by the grid and it also provides flexible ramping capability that is *critical* to enable many existing and emerging clean electricity

technologies.[1,2,3] The gas system is a large, dependable, and responsive energy storage asset that is needed to provide flexibility, reliability, and resiliency for the electric grid. Advancement of renewable resources has changed the way electricity is generated and driven increased "inter-dependencies between gas and electric systems" as the gas grid is "being used to integrate renewables" by "meet[ing] peak and net peak demand".[4] Southern California gas storage facilities are particularly valuable in responding to hour-to- hour changing demand and large swings in demand for natural gas that occur within a single day and are "essential in allowing the flexible use of gas-fired electricity generators to back up renewable generation."[5] CAISO and SB 100 Joint Agency future modeling should be refined to include more granularity to provide a better understanding of the value of dispatchable electric generators ("DEG") and the gas system in enabling many different clean energy resources to serve the grid.

- The CAISO and the SB 100 Joint Agencies should continue to plan for incorporation of DEGs as the future evolution of the gas system will result in cleaner DEGs. As part of Sustainability commitments by both companies, SDG&E and SoCalGas are doing their part to enable cleaner DEGs in our regions.[6] SDG&E is developing a pilot to blend green hydrogen into its Palomar Energy Center dispatchable plant. SoCalGas is pursuing efforts to decarbonize the gas grid, including exploring hydrogen and other low- and zero-carbon gaseous fuel infrastructure. The future of DEGs is thus getting cleaner by individual projects like SDG&E's green hydrogen blending pilot and other utility commitments such as those outlined by LADWP in its LA100 Study and by SoCalGas' infrastructure as a transport mechanism for cleaner fuels such as green hydrogen and renewable gases. DEG projects and the gas system can provide clean solutions that will enable even broader resiliency and reliability services for the energy system in high renewable scenarios and should thus continue to be incorporated in future Transmission Planning.

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[1] *See* California Public Utilities Commission, Decision D.21-06-035, *Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026)*, 30 June 20210.

[2] *See* California Air Resources Board, *Achieving Carbon Neutrality in California: PATHWAYS Scenarios Developed for the California Air Resources Board*, October 2020, available at https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf.

[3] *See* California Energy Commission, 2021 SB 100 Joint Agency Report: Achieving 100 Percent Clean Electricity in California: An Initial Assessment, March 2021, available at https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=70349.

[4] *See* CEC, "Overview of California Gas Reliability Issues", presented at the IEPR Joint Agency Workshop on Summer 2021 Reliability, Session 3: Gas Reliability Issues and Polar Vortex & Implications, available at https://www.energy.ca.gov/event/workshop/2021-07/iepr-joint-agency-workshop-summer-2021-electric-and-natural-gas-0

[5] *See* California Council on Science & Technology (CCST), "Long-Term Viability of Underground Natural Gas Storage in California: An Independent Review of Scientific and Technical Information", page 494, available at https://ccst.us/reports/long-term-viability-of-underground-natural-gas-storage-in-california-an-independent-review-of-scientific-and-technical-information/

[6] See SDG&E, "SDG&E's Commitment to Sustainability: Net Zero by 2045", available at https://www.sdge.com/more-information/environment/sustainability-approach and SoCalGas, "ASPIRE 2045: Sustainability and Climate Commitment to Net Zero", available at https://www.socalgas.com/sites/default/files/2021-03/SoCalGas_Climate_Commitment.pdf

Next Steps should enable solutions that minimize costs to ratepayers.

- CAISO and the SB 100 Joint Agencies should prioritize transmission projects that are closer to or within California to reduce build costs and minimize ratepayer costs. The workshop presented many potential transmission projects, some of which crossed multiple states. Nationwide and nearby states' goals to increase emission reduction requirements, may cause other states' clean energy resources to serve their local regions. Some of these multi-state projects may not be necessary or cost-effective to California ratepayers. Prioritizing projects that are closer to California could reduce transmission build costs and thus help minimize ratepayer costs.
- Increased transmission capability coupled with an expanded market footprint (as contemplated by the CAISO's Expanded Day-Ahead Market (EDAM) proposal) could improve the ability to accommodate the increased amounts of clean energy output necessary to achieve climate goals. The SB 100 Joint Agencies and CAISO should continue to examine both the benefits and risks of expanding regionalization and building upon successes of EIM and an expanded market.

SDG&E and SoCalGas believe the path to incorporating the three pillars above necessitates more frequent analysis to capture updated reliability information from the TPP and the new 20-year transmission outlook initiative, model upgrades, new information on emerging technologies, and updated cost assumptions. Every four years is not frequent enough to address the urgency of addressing climate change and to capture changes in transmission planning. SDG&E and SoCalGas recommend that at a minimum the SB 100 modeling be done at least once every two years to better align with the IRP process.

In summary, SDG&E and SoCalGas urge the SB 100 Joint Agencies to consider more frequent analysis and reporting. We further urge the CAISO and the SB 100 Joint Agencies to incorporate our three pillars when planning the implementation of SB 100 (i) prioritize robust **reliability** assessments that consider land in its examination of opportunities to decarbonize and to retain strategic components of the gas fleet and gas infrastructure to ensure reliability, (ii) remain **flexible and technology inclusive** as a mix of solutions will likely reveal opportunities for reliability and cost minimization, and (iii) make progress toward **cost minimization** of SB 100 by ensuring modeling and input cost assumptions are conducted via a long-term lens and use the best available data. SDG&E and SoCalGas believe that these considerations will enable California to achieve the goals of SB 100 without sacrificing reliability or resulting in suboptimal costs.

We look forward to working collaboratively with the CAISO and the SB 100 Joint Agencies to enable a transition to 100% zero-carbon electricity.

Sincerely,

California Energy Commission
August 11, 2021

/s/_ Alan Dulgeroff

Alan Dulgeroff
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/s/_ N. Jonathan Peress

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