BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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OPENING COMMENTS OF CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES ON PROPOSED DECISION ON THE 2019-2020 ELECTRIC RESOURCE PORTFOLIOS TO INFORM INTEGRATED RESOURCE PLANS AND TRANSMISSION PLANNING

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Comments on the Proposed Decision Regarding 2019-2020 Electric Resource Portfolios to Inform Integrated Resource Plans and Transmission Planning, mailed in the Integrated Resource Planning (IRP) proceeding, Rulemaking (R.) 16-02-007, on February 21, 2020. These Opening Comments are timely filed and served pursuant to the Commission's Rules of Practice and Procedure.

I.
THE PROPOSED DECISION IS BASED ON INACCURATE DATA ANALYTICS.

The Proposed Decision is flawed because the data analysis methodology used by the Commission is inadequate. The Commission insists on continuing to use the RESOLVE model to screen technology options and determine procurement and transmission needs even after multiple parties expressed their concerns with the RESOLVE model[1]. However, despite these objections, the Commission used RESOLVE model outputs to justify the Proposed Decision with little to no improvement in areas of high concern, such as the failure of the model to represent actual greenhouse gas (GHG) emissions, the use of outdated load forecasts, and the

[1] Proposed Decision, at p. 15.

failure to include new technologies, such as offshore wind and hybrid solar plus storage; whether that be utility scale or aggregated Behind the Meter storage.

The RESOLVE model is out of sync with and inferior to more holistic modeling approaches used by other load serving entities (LSEs) such as Los Angeles Department of Water and Power (LADWP). RESOLVE is a Capacity Expansion Model (CEM) that is designed to optimize the timing of investments for a goal and portfolio that have already been mostly decided on with Energy Division biases, such as type of resource capacity used. RESOLVE is not capable of appropriately dealing with varying load shapes, local capacity requirement (LCR) issues, distributed energy resources (DER), demand response (DR), or hybrid resources, or interactions between storage and use limited resources.

In addition, GHG emission estimates generated by RESOLVE are often inaccurate due to the fact that the model relies on a narrow selection of "stress hours" and climate history, not future climate, to represent the entire year. By contrast, LADWP uses a suite of models, using a CEM in combination with a robust Production Cost Model (PCM) that looks at dispatch of non-traditional resources, a Power Flow Model (PFM) that look at transmission system reliability and resiliency under stress conditions and contingency situations, in addition to several "sub-models" designed to faithfully represent specific aspects of energy systems, including but not limited to load forecasting, distribution system hosting capacity, electric vehicle (EV) charging behavior, and building energy needs. In comparison to other agencies' model combinations, the feedback loop between RESOLVE and SERVM is severely limited.

As a further demonstration of the IRP process' innate design shortcomings, the Commission decided to analyze the portfolio at 46 million metric tons per year (MMT/year) of GHG emission reductions, shifting 4 MMT/year of GHG emissions from the industrial sector to

the electricity sector.[2] Not only is the 46 MMT/year 2030 GHG emission baseline too high, but it is also based erroneously in two-year old forecast data from the California Energy Commission's (CEC's) Integrated Energy Policy Report (IEPR).[3]

The electric sector is in the midst of an unprecedented transition period, in which the historical data used in forecasting will not accurately predict future load due to substantial increases in electrification from the transportation and building sectors expected in the coming years. Using *two-year old* IEPR data removes the analysis even further from California's future reality. The combination of outdated, unrealistic data with an extremely high electric sector emission target will ensure that California misses its 2030 emission reduction goal.

The Proposed Decision claims that the resulting 46 MMT/year 2030 GHG emission goal keeps LSEs on track to meet the state's Senate Bill (SB) 100 goals.[4] However, the 46 MMT/year goal is too high to ensure a smooth transition to meet those policy goals, as supported by the Energy Division's own analysis.[5] Basing the portfolio around the 46 MMT/year goal will delay desperately needed new procurement of renewables and large scale storage and indefinitely delay emission reductions. The most cost-effective path to California's 2030 goals may pass if the Commission does not take action to encourage clean investments now. We cannot wait until the end of the decade to begin procurement of preferred resources that are essential to meeting California's energy policy goals while still ensuring that ratepayers are optimally protected.

The consequences of the Commission's failure to plan and act accordingly will fall on the ratepayers; an outcome not only directly at odds with California's climate goals, but also with the

[2] Proposed Decision, at p. 73.
[3] *Id.*, at p. 16.
[4] *Id.*, at p. 2.
[5] California Public Utilities Commission, Attachment A: 2019-20 IRP: Proposed Reference System Plan (November 6, 2019), at slide 165.

Commission's main duty to provide access to safe, clean, and affordable utility services to the people of California.[6] In addition, the Proposed Decision prohibits any LSE from filing an investment plan that extends beyond its load ratio share of 46 MMT/year emissions. The Proposed Decision demands that the LSEs only file a "Conforming Portfolio" in line with the 2019-2020 RSP because the Alternative Portfolios filed by some LSEs in the last IRP cycle made it difficult to aggregate for the California Independent System Operator (CAISO) system and evaluate against the 2019-2020 RSP.[7]

CEERT agrees that efficiency of the Commission staff, as well as effective collaboration between the Commission and other agencies, is necessary. However, requiring only the Conforming Portfolio will prevent other viable technologies from being incentivized and utilized, while still failing to fix the bureaucratic issues preventing the success of the IRP program. Preventing non-jurisdictional LSEs from filing more aggressive investment plans is a dramatic overreach of Commission authority that can be read as a clumsy bureaucratic attempt to override local control over energy policy. These alternative technologies and more aggressive local investment plans are essential in forming a robust portfolio that will allow California to keep its energy and environmental promises.

Rather than depending on the Energy Division for all wisdom and prevailing assumptions, the LSEs, CEC, and CAISO should be allowed to study and discuss the range of scenarios, economic assumptions, and technology portfolios that should be considered in developing plans for 2030. This approach would be more insightful and relevant than having the Commission dictate the design and contents of LSE plans. Procurement needs to happen as soon

[6] About the California Public Utility Commission, (https://www.cpuc.ca.gov/aboutus/)
[7] Proposed Decision, at p. 52.

as possible from a reliability standpoint; however, procuring too few new resources and too narrow a portfolio will set California even further back in reaching its climate goals.

The Proposed Decision also prevents the CAISO from identifying transmission constraints for full deliverability of any plan other than the 2017-2018 Preferred System Plan (PSP), which has little-to-no load increase from electrification.[8] For the past three transmission planning cycles, the generation portfolio assumptions prepared and submitted by the Commission have lagged behind the adoption of new legislative policies and clean energy targets.[9] CEERT is skeptical as to why the Energy Division is encouraging the use of data that does not show expected load growth from electric vehicles and building appliance electrification but references this exact load growth in the Proposed Decision as a point of concern.[10]

The Commission's objective seems to be to deliberately constrain the CAISO transmission planning process to ensure little or no new transmission is identified as needed. This is presumably because the Commission sees danger in building too much transmission too soon. However, other independent resource planning efforts, such as the National Renewable Energy Laboratory (NREL) 100% Renewable Energy Study for LADWP[11], as well as E3's PATHWAYS study for CARB,[12] envision a much greater need for new renewables, storage resources, and transmission for both in-state and out-of-state resources.

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[8] Proposed Decision, at p. 23.
[9] 2016-2017 CAISO Transmission Plan, at p. 153, and 2017-2018 CAISO Transmission Plan, at pp. 213-214 (Only includes 33% RPS, even though SB 350 had passed in 2015 and taken effect in 2016). 2018-2019 CAISO Transmission Plan, at p. 16, and 2019-2020 CAISO Transmission Plan, at pp. 44-45 (Does not include 100% RPS goal of SB 100).
[10] Proposed Decision, at p. 25.
[11] Barner, J. C., Los Angeles Department of Water and Power (SB 100 Technical Workshop Presentation, November 18, 2019) SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future, at slides 19-21.
[12] Mahone, A., Hart, E., Haley, B., et. al. California PATHWAYS: GHG Scenario Results Presentation, April 6. 2015) at slide 9.

II.
THE PROPOSED DECISION CEMENTS NATURAL GAS GENERATION INTO THE PROCUREMENT PLAN AND RESULTS IN NO GREENHOUSE GAS EMISSION REDUCTIONS FROM THE ELECTRICITY SECTOR THROUGH 2030.

In light of the analytical deficiencies mentioned above, CEERT is concerned that the narrow-sighted Proposed Decision cements natural gas generation into California's future without sufficiently considering alternative preferred resources. The Proposed Decision maintains that the RESOLVE model found that it is more economic to retain natural gas capacity than to retire the natural gas and have to rebuild it after 2030, when electric loads are increasing dramatically due to expected electrification.[13] As a result, the Proposed Decision only retires 30 MW of natural gas by 2030.[14] Furthermore, in addition to the 3,300 MW already prescribed by D.19-11-016, the Proposed Decision calls for an additional 2,000 MW of generic effective capacity to ensure reliability under the 46 MMT/year emission reduction goal.[15]

CEERT is extremely concerned that without the correct planning, this additional capacity will default to gas generation and prevent California from meeting its climate goals; an outcome that can be avoided with other reliable resources, such as hybrid solar plus storage, advanced geothermal with minerals recovery, and additional out-of-state or offshore wind. While the Proposed Decision mentions offshore wind as a potentially important technology, offshore wind is not included in the RESOLVE model capacity additions. Furthermore, the restrictive generation assumptions for transmission planning ensure that transmission projects needed to bring offshore wind to serve California (i.e. the underwater DC line from Diablo Canyon to the West Side of LA) will not be studied during the next transmission planning cycle, even though the proposed project would directly reduce the need to burn gas in the LA basin for reliability.

[13] Proposed Decision, at p. 26.
[14] *Id.*, at p. 42.
[15] *Id.*, at p. 73.

Furthermore, with the retirement of Diablo Canyon drawing closer, the energy sector must find a clean alternative to that lost capacity, or risk filling the gap with natural gas generation. This risk is clearly realized in the Proposed Decision's Key Metric Output from both the RESOLVE and SERVM models, in which GHG emissions from the electricity sector increase from 2022 to 2026, corresponding with the retirement of Diablo Canyon. As a result, there will ultimately be higher GHG emissions in 2030 than in 2022[16] and virtually no GHG emission reductions from the electricity sector through 2030. Furthermore, the Proposed Decision does not consider the incremental investment in pipeline refurbishment and storage required for gas transmission to safely and reliably supply the current gas capacity with fuel during the peak stress hours.

All of this is extremely concerning considering how difficult the Commission claims reaching 46 MMT/year will be.[17] This assertion has no basis in fact. The 46 MMT/year GHG emission reduction baseline simply does not accomplish either of California's major climate goals for the energy sector: lowering GHG emissions significantly and achieving high renewable penetration. Using the high 46 MMT/year GHG emission reduction baseline, and relying on gas generation to get us there, locks California onto a path that will prevent the state from reaching its SB 100 goals on time and in the most cost-effective manner. As stated in the Proposed Decision, other technologies that could be used to ensure reliability of the grid and mitigate transmission constraints should be considered extremely viable in providing economical capacity to the grid[18]. Furthermore, the Proposed Decision acknowledges that a diverse portfolio is

[16] *Id.*, at p. 38.
[17] *Id.*, at p. 25.
[18] *Id.*, at p. 78.

absolutely fundamental in California reaching its 2030 and 2045 GHG emission goals in the least-cost manner.[19]

CEERT fears that the Commission's flippant and crude promoting of gas generation as the saving grace to the grid's looming reliability problems will disincentivize the development and procurement of preferred resources, resulting in a homogeneous, narrow portfolio with dire consequences to California's climate future.

III.
CONCLUSION

CEERT realizes that there is a huge amount of bureaucratic momentum and institutional pride on display in this Proposed Decision, and a clear effort on the part of the Commission staff to maintain as much control over the planning and modeling assumptions as possible. However, if the Proposed Decision is adopted, it will constitute a huge step backward, and virtually ensure California will fall short of meeting its ambitious but achievable GHG reduction and climate change goals. CEERT respectfully urges the Commission to delay the adoption of the Proposed Decision, and instead convene an all parties meeting to discuss needed changes in planning assumptions, GHG emission reduction targets, and the ability of non-IOU LSE's to adopt more aggressive investment plans.

Respectfully submitted,

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[19] Proposed Decision at p. 74.