Nathan Sandvig
National Grid USA
205 SE Spokane Street, Suite 300
Portland, Oregon 97202
Nathan.sandvig@nationalgrid.com

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BY E-MAIL (Suzanne.Casazza@cpuc.ca.gov.)

Suzanne Casazza
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Informal Comments of National Grid on the Customer and Retail Choice En Banc and White Paper

National Grid USA ("National Grid") submits the following comments in response to the June 1, 2017 Request of President Michael Picker for Informal Comments on the Customer and Retail Choice En Banc and White Paper.

National Grid commends Commissioner Picker and Commission staff for proactively considering the future role of electric utility and the impact of customer choice on electric market structure, reliability, resource planning and California's ability to meet its policy goals. National Grid shares Energy Division's concern, as stated in the *Staff White Paper*, that future expansion of retail choice could lead to inconsistent resource planning and undermine the State's ability to meet GHG targets and other policy objectives. National Grid pr*Staff White Paper* should clarify that unfettered retail choice could lead to further fragmentation of customer load, increase utility uncertainty regarding allocation of costs and, as a result, impede procurement of more capital-intensive resources, including large pumped storage hydro, which will be critical for cost-effective integration of renewable resources and maximizing GHG reductions. The Commission, in coordination with other energy policy makers, should consider what legal, regulatory, and policy reforms may be necessary to ensure that changes in retail market structure does not foreclose opportunities for development of such resources.

National Grid's comments are offered in response to the *Staff White Paper* and to Panel IV "Big Think Presentation" on the Future of Retail Electricity Service.

1. About National Grid

National Grid, a subsidiary of National Grid plc, is a Fortune Global 500 company and one of the largest investor-owned energy companies in the world, with a market capitalization of over $50 billion. National Grid plc has utility operations in both the United Kingdom and the United States. National Grid is actively engaged in the development and operation of bulk transmission and grid-

scale storage assets that will be necessary as the United States transitions the electric system to a low-carbon grid.

2. Pumped Storage Hydro will be Critical to Cost Effective Integration of Renewables and Maximizing GHG Reductions

National Grid believes that pumped storage hydropower will be critical to helping California cost-effectively achieve its GHG reduction goals. Pumped storage hydropower is a mature and commercially proven technology. Because it can be deployed at utility-scale cost-effectively, pumped storage is uniquely positioned to leverage existing regional infrastructure and resources to address current and foreseeable regional challenges, including grid reliability and the integration of additional renewable energy resources. National Grid is presently pursuing development of the two most promising pumped storage projects in the Pacific Northwest, the Swan Lake North Pumped Storage Hydropower Project in southern Oregon ("Swan Lake Project"), and the JD Pool Pumped Storage Hydropower Project in southern Washington ("JD Pool Project"). The almost 400 MW Swan Lake Project is being jointly developed by National Grid and Rye Development. Both projects will utilize environmentally-friendly "closed-loop" technology, are located near existing high voltage transmission corridors (i.e. AC-DC Interties), and will be capable of providing unmatched flexibility, are capable of serving multiple uses, and can provide stacked benefits on an individual utility and/or regional basis.

2. Fragmenting retail market and regulatory framework could impede development of pumped storage hydro.

The need for pumped storage is already clear but California's ability to bring projects online in time to meet the need is at risk due, in part, to anticipated future growth of CCAs and resulting fragmentation in retail markets.

As the CAISO and other parties made clear in recent Integrated Energy Policy Report workshops California needs to take prompt action to secure adequate flexible resources for integration of renewables. As detailed by the CAISO, the need for flexible resources is even more acute than indicated by the CAISO's original "duck chart," which it developed to demonstrate the need for flexible resources to integrate solar and wind resources. As the CAISO explained, the very low levels of "net load" (load minus solar and wind) and the steep ramps that it forecasted in the past have arrived much sooner than anticipated. Unfortunately, however, solutions to the flexibility needs are not yet in place.

The CAISO's ongoing bulk storage studies have shown that bulk storage can be an effective way to provide the needed flexibility. Fortunately, the Commission is poised to consider bulk storage in the current Integrated Resource Planning proceeding. The Commission issued a draft Energy Division "Proposal for Implementing Integrated Resource Planning at the CPUC" on May 15, 2017 ("Energy Division Proposal"), which indicates that the CPUC will consider and assess the need for pumped hydro. Depending on the results of that analysis the CPUC may expedite consideration of long-lead time projects such as pumped storage projects. As part of this process the Commission will consider specific procurement mechanisms and cost allocation issues.

At present, the lack of a clear path to procurement is the single biggest barrier to development of pumped hydro. Without a long term contract or other commitment, pumped hydro projects cannot obtain financing necessary for development. Large pumped hydro projects are capital intensive and

capable of providing benefits to multiple utility off-takers. In fact, due to the size of typical pumped hydro project, it is unlikely that any single utility could justify contracting for the full capacity. Retail utilities are unlikely to make substantial long term commitments to such projects, however, when they are facing massive departure of customer load due to community choice aggregation and distributed energy resources.

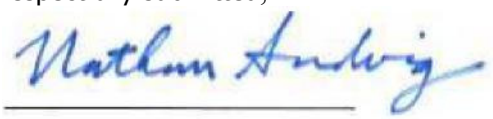
As the *Staff White Paper* notes, "much of the policy framework underpinning the goals has presumed the electric utility serves as the central agent for making these investments, raising low cost capital in financial markets, and then recovering costs through sales of electricity."[1] CCAs, however, are not sufficiently creditworthy to provide this function, especially for purposes of larger and more capital intensive projects such as pumped hydro. Removing investor owned utilities from this role would be a significant loss and would not serve the public interest. The Commission must ensure that retail choice does not frustrate or impede California's other policy objectives or close the door on whole categories of resources. Whatever the merits of distributed energy

Accordingly, the Commission, in coordination with the CEC and the CAISO, should develop a path to procurement for pumped storage hydro, which will be critical for cost-effective integration of renewable resources and GHG reductions. Because pumped storage hydro projects are capable of providing benefits to multiple LSEs at once, and are likely too large for any single LSE, the Commission should consider regional and multiparty procurement options and other mechanisms to allocate costs as broadly as possible across all categories of LSE, commensurate with benefits.

3. Conclusion

National Grid appreciates the opportunity to provide these comments and looks forward to working further with the Commission on these important issues.

Respectfully submitted,



Nathan Sandvig
Director, Business Development
National Grid USA

[1] *Staff White Paper*, p. 4.