Bloomenergy

October 21, 2013

Mr. Stephen St. Marie
California Public Utilities Commission
Policy and Planning Division
Via Email: stephen.st.marie@cpuc.ca.gov

RE: SCE "Living" Pilot Proposal

Mr. St. Marie,

Bloom Energy, Inc. (Bloom) appreciates the opportunity to provide comments on SCE's proposed Preferred Resource "Living" Pilot to procure and evaluate the ability of Preferred Resources to meet Local Capacity Requirements (LCR). Bloom's proposal as detailed below is intended to provide information on the ability of Bloom's product offerings to meet the needs of SCE in the specified areas. We stand ready and willing to follow up with both the PUC and SCE to further discuss the proposal and other aspects of Bloom's products.

Reliable, targeted, GHG reducing technologies like Bloom's Energy Servers should play an integral role in utility procurement to help address increasing environmental goals, the need to integrate intermittent technologies and the need to quickly deploy reliable resources in critical areas in Southern California. In California Bloom's products have been nearly all customer-sited projects. However, Bloom has installed 30 MWs at utility substations on the east coast. There is precedent and a clear opportunity for reliable clean distributed generation to play a role in utility procurement both on the utility-side and customer-side of the meter in California.

Founded in 2001 and with over 100 MWs of installed capacity across the United States, Bloom Energy is headquartered in Sunnyvale, CA where we manufacture unique distributed fuel cell power systems which are among the most energy efficient on the planet. Bloom's fuel cell systems were invented in California, are manufactured in California and are being deployed throughout California to help the state meet its energy, environmental and economic objectives.

Bloom's Attributes
Bloom is able and ready to perform where and when needed to meet local reliability needs to enhance overall grid stability and resiliency in an environmentally sustainable way. Bloom fuel cells are more reliable than a conventional power plant, and are CARB 2007 compliant, offering environmental benefits that exempt the systems from local air permits to enable them to be sited virtually anywhere. In addition to efficiently generating electricity without combustion, Bloom Energy Servers do not use any water during normal operation.

Bloom's modular and scalable Energy Server provides on-site generation in 100kW increments that can be scaled to tens of MWs. The small foot print provides more energy density, allowing for siting in space constrained areas or communities sensitive to "NIMBY" issues. Due to its inherent redundant architecture, Bloom can remain online while conducting normal maintenance activities enhancing its overall reliability and uptime. Bloom has installed over 60 MW of fuel cells in California,

avoiding over 440 million pounds of CO2 from being emitted into our atmosphere, the equivalent to taking over 42,000 cars off the road every year.

Bloom Energy Servers can be co-located at substations – as we have done for Delmarva Power – or at other optimal locations identified by SCE to provide not only local capacity but also to provide grid resiliency and overall reliability in targeted remote or capacity constrained areas.

Lastly, Bloom Energy Servers can be renewable with the use of biogas. While in-state biogas supplies are currently limited, new policy directives (such as AB 1900) and increased development of biogas supplies are promising. Bloom's energy servers do not need any equipment modification to be "renewable" – simply a change in fuel being delivered via the gas pipeline system.

Bloom Solutions for Johanna or Santiago Substation Needs
Using the attributes identified in the SCE Slides, below we offer solutions in response to the needed attributes. Most importantly, Bloom can meet the main near term goal- helping to reduce peak demand reliability needs. Additionally, given Bloom's attributes we can defray the need for conventional gas fired generation without the NIMBY issues that have plagued conventional generation projects, such as the Chino Hills transmission lines.

- **Additional capacity at substations –** Because of Bloom's power density and 99+% availability, and because they can be sited without permits/ERCs, Bloom Energy Servers could easily and quickly be placed at or near substations or other optimal sites to provide baseload capacity and energy to meet today's capacity needs and grow to meet potential load growth in the future.

- **Permanent load reduction via customer side installations –** The 60 MWs Bloom currently has installed in California provides permanent and predictable load reduction. Because of their 24/7 nature Bloom Energy Servers – when installed either behind a customer meter or controlled by SCE – can be used to reduce load in specific areas of need.
    - **Peak load reduction –** Along with permanent load reduction comes peak load reduction.

- **Peak generation via Bloom flexible solution –** Bloom's current commercial product provides reliable onsite baseload power. Bloom's Energy Server technology also has the ability to help utilities reduce peak demand from customers, particularly in constrained load pockets. Again, because of our attributes (see above) such solutions can be placed in key areas of need.

- **Real time load reduction via Bloom Islanding capabilities –** Bloom's technology allows customers to ensure that their critical load can be maintained – even when grid instability or interruptions occur. Such could also be the case when load reductions are needed to balance the system or ride out peak usage incidents. By providing customers greater assurances that their business will not be negatively impacted, Bloom

could be used to dramatically increase customer participation in real time load reduction programs.

- **Grid reliability and resiliency** –The Bloom systems located at a Delmarva substation continued to operate without disruption while Hurricane Sandy passed directly over our systems. Bloom provided electricity to Delmarva's customers while many parts of the electric grid remained offline.

- **Voltage support** – Bloom can provide lagging or leading VAR support and power factor adjustment in targeted areas, thereby helping utilities reduce operational costs.

Conclusion

In conclusion, Bloom reiterates our appreciation for the opportunity to comment on SCE's proposed Preferred Resource "Living" Pilot. SCE's leadership in considering new and innovative technologies to address utility needs is timely and relevant. By evaluating the efficacy of new technologies, SCE is paving the way of the utility of today and the future.

Thank you for your consideration,

Erin Grizard
Director, Regulatory and Government Affairs