Dear Mr. Harland,

My name is Robert Perry, and I attended (by Webex) yesterday's Joint Energy Agency Workshop to Kick-Off the Development of a Roadmap to Commercialize Microgrids in California (the "Workshop"). I am the Director for Energy Research for the World Business Academy, a non-profit organization located in Santa Barbara (the "Academy") that advocates generally for distributed energy solutions and specifically seeks to develop a renewable energy microgrid system for the southern portion of Santa Barbara County ("South Santa Barbara County"), which is served by Southern California Edison ("SCE").

Needless to say, the core objectives underlying the Workshop are central to our success, and I would like to request that the Academy participate as a member of the Technical Advisory Committee and/or Sub-Groups to be formed as part of the next Workshop scheduled in Southern California at a location to be determined. To provide some context, I would like to share some background information regarding the Academy and how the energy constraints currently impacting South Santa Barbara County directly relate to the Workshop's goal of developing of a road map to commercialize microgrids.

As part of its advocacy efforts, the Academy has participated in numerous proceedings before the CPUC, including but not limited to SDGE's LCR application regarding the Carlsbad Energy Center PPA (A.14-07-009), the development of Distributed Resource Plans pursuant to PUC Code §769 (R.14-08-013) and SCE's LCR application for the Moorpark Sub-Area (A.14-11-016), the service area incorporating all of South Santa Barbara County.

As you may know, Santa Barbara County is unique in that it is split between the service areas of PG&E and SCE, the utility servicing the impacted area. SCE's service area in South Santa Barbara County hews closely to the coastal mountain range and precludes any alternate transmission pathway. The primary 220 kV transmission lines are also routed through rugged and remote terrain, and SCE has acknowledged in PUC filings that a transmission tower failure could result in an outage lasting weeks and possibly months.

As a back-up, secondary 66 kV sub-transmission lines currently deliver only 100 MVA, which will increase to 150 MVA following completion of a PUC-approved reliability enhancement program by December, 2018. SCE estimates the area's peak energy needs to be between 250 – 265 MVA, leaving a shortage of between 100 to 115 MVA, depending upon the time of year. As noted at the Workshop, SCE developed a short-term emergency strategy comprised of a fleet of mobile diesel generating units, but it is clear that reliability in this area is systemically deficient

and will remain vulnerable year-round from rain, mudslides, earthquakes, high winds and wildfires[1].

As a permanent solution, the Academy is promoting a program, dubbed Santa Barbara: Reliable, Resilient and Renewable ("SBR3"), which seeks to bridge the transmission shortfall through a combination of local distributed renewable energy generation operating in tandem with energy efficiency, demand response, storage and advanced distribution management technologies.

The primary goal and objective of SBR3 is to develop a local distributed energy system capable of reducing transmission system load and providing enough locally distributed power to meet or exceed the net energy shortage resulting from a transmission tower failure as described above. Long term, the project ultimately aims to achieve grid independence and even become a net supplier of energy as (i) solar generation increases, (ii) the cost of energy storage continues to decline and (iii) solid waste, wastewater and water systems are augmented to self-generate energy, operate independently and offer additional distribution system capacity.

There are also other aspects of Santa Barbara's situation which I believe include some key values discussed at the Workshop:

CCA Formation. Municipal and county governments have authorized and funded a feasibility study regarding the establishment of a Community Choice Aggregation entity to potentially serve Santa Barbara, Ventura and San Luis Obispo counties.

Availability of EPIC Grant Funds. The Academy prepared an application for the EPIC program related to Advanced Energy Communities, but could not complete its submission due to the late withdrawal by SCE as the primary stakeholder. I was glad to hear that there will be another round of EPIC grants, and hope to use the experience at the Workshop to help frame our next application.

Streamlined Interconnection/Permitting. One of the core objectives in our EPIC application was to develop a seamless process by which stakeholders, regulatory agencies and local governments could share information and facilitate expedited permitting of DERs. Such a process will be essential in making microgrids commercially viable.

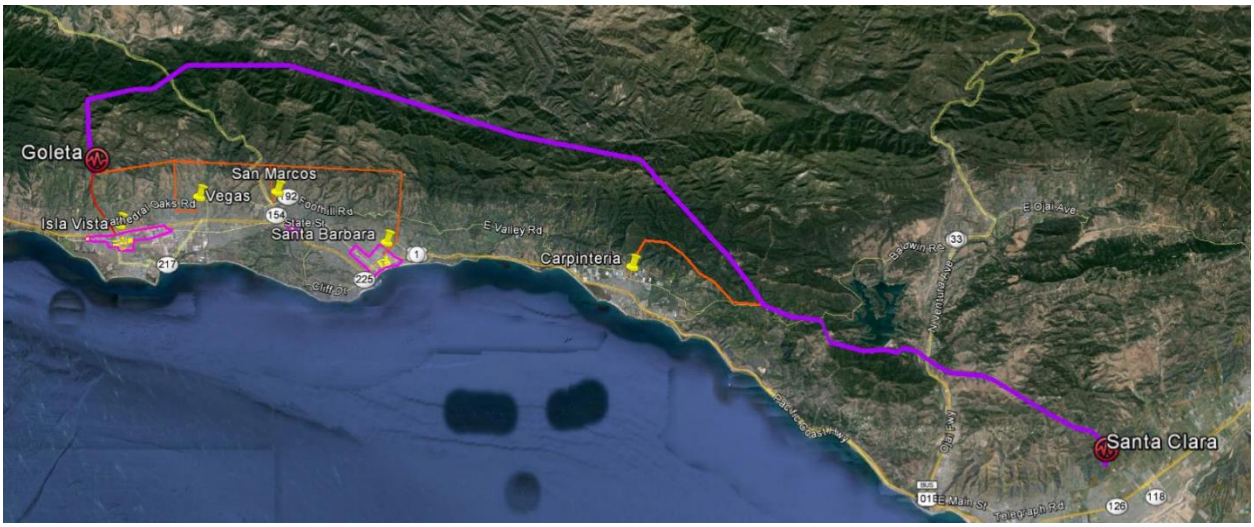
[1] These transmission lines, plus other lines feeding into and out of the Santa Clara substation, were recently threatened by a wildfire that could have easily spiraled out of control in more windy conditions. See KEYT, "Brush Fire Burning Underneath Power Lines Near Ventura," May 12, 2016.

Evolution Towards Regional Microgrids linked by a Transmission Substation. Peter Klauer at CAISO referred to the possibility of a microgrid system operating under a transmission substation. Santa Barbara currently has only one such substation, the Goleta substation, and the eventual goal would be to coordinate the distribution substations so that excess energy would be routed via the Goleta substation to the transmission grid. Attached are aerial images of the Santa Clara – Goleta transmission line and Santa Barbara's distribution system, using SCE's DERiM website. By developing DERs in proximity to substations, excess energy could be re-routed throughout the entire distribution system and eventually, exported to the transmission grid once sufficient DER penetration is realized.

I look forward to attending the next Workshop and helping California become the leader in microgrid and distributed energy infrastructure.

Sincerely,

Santa Clara-Goleta Transmission Line Feeding South Santa Barbara County



Distribution System for Santa Barbara (Per SCE DERiM Website)