

Stephen St. Marie
CPUC's Policy & Planning Division

Dear Stephen,

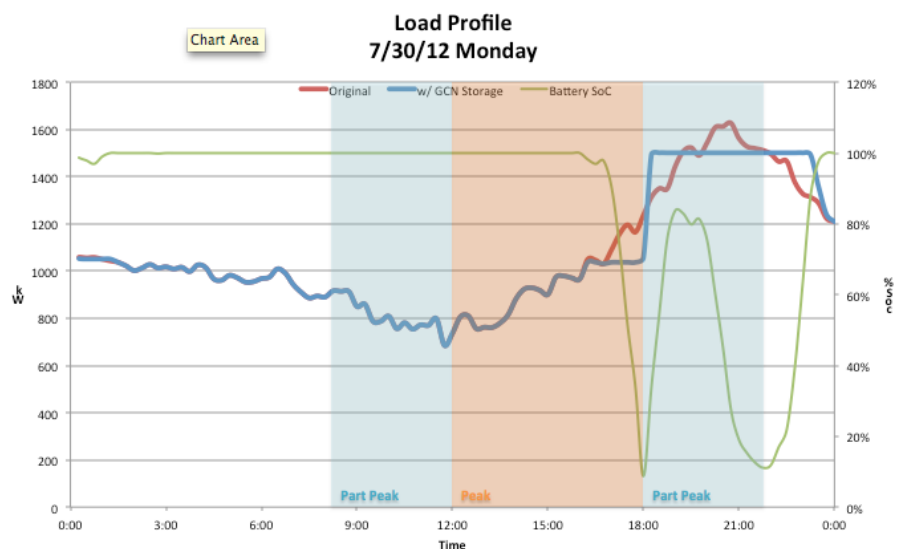
Green Charge Networks is excited to provide some ideas on how to leverage intelligent energy storage to resolve some of the challenges created by the closure of SONGS. Intelligent energy storage is a fast acting, very flexible energy resource that can be utilized in many different ways. Our recommendation is to pilot intelligent energy storage on the customer side of the meter to provide guaranteed curtailment through Demand Response during peak demand hours. Currently with our portfolio of storage sites we have unused battery capacity that could be used during times of need. Our recommendation is to create a demand response credit/payment back to the host customer for utilizing this idle capacity.

About Green Charge Networks

Green Charge Networks (GCN) was founded in 2009 and is a Delaware LLC, headquartered in Santa Clara, CA. We were one of the first providers to offer intelligent energy storage to reduce peak demand for commercial customers. Our technology, the GreenStation™ was first installed in 2011 as part of a DOE Grant with Con Edison, Avis and 7-Eleven. GCN has 30+ patents pending on various aspects of the system with over 20 patent applications already published. Our initial systems were installed at multiple 7-eleven and Avis locations in New York City and now have close to two years' worth of field operating data. EV chargers and solar systems have been installed with our system to improve their ROI and mitigate the impact to demand charges. We are currently installing systems in California for a number of national commercial customers, agriculture, industrial and municipalities.

Technological Innovation

The technology behind GreenStation comes from more than three years of collaboration between Green Charge Networks, Department of Energy, and Con Edison of New York. It is a modular lithium ion based grid-tied energy storage system that complements renewable energy on the customer's side of the meter. While energy storage solves many problems, our core focus is demand reduction through intelligent software.



The root technology is a smart controller with sophisticated software that monitors facility loads on a second-by-second basis and counteracts the peaks and valleys by discharging and charging from

the lithium ion storage. The net result is a flattened power load curve during peak consumption periods. The stochastic software embedded in the controller work similarly to stock trading algorithms. While it is simple to look back on the day's performance to model buy/sell decisions, the algorithms have to determine real-time, second-by-second transactions based on incomplete information. GreenStation's controller takes into historical data as well as the real-time operating environment at the facility to make predictive energy storage charge / discharge decisions and exactly offset the peaks. Our software is designed to take signals from the utility or can be pre-programmed for a set period to dispatch unutilized capacity for a few seconds or for a 4 hour window. Given the flexibility of our software we are able to customize the system to meet a number of different needs for the living pilot. Some of the key areas we can resolve are;

- Real Time Demand Reduction
- Mitigating customer side intermittent generation issues
- Scheduled load reduction (Low and Moderate use)
- Mitigate transmission contingencies
- Minimize spikes caused by EV charging
- Increased DG solar adoption (storage increases the ROI for solar projects)
- Increased EV charging locations (minimizes \$ impact from increased demand charges)

Implementation

Green Charge Networks has a number of commercial customers within the area impacted by the SONGS retirement that have expressed interest in piloting solutions that can utilize the unused capacity of our batteries while providing additional revenue to improve their ROI. Our recommendation is work with the local utility to find optimal locations along the circuit that would provide the largest benefit to all parties. We would also need to understand the credit/payment process for utilizing the excess capacity or a "rental fee" if our system would be owned by the utility. We feel that this solution will be quick to implement and one of the lowest cost solutions to help mitigate this issues due to the SONGS retirement.

We also feel that the lessons learned here will be able to be utilized by other utilities across California.

Please let me know if you have any further questions.

Sincerely,

Stephen Kelley
Senior Vice President
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Green Charge Networks

