

EXHIBIT A

Overview of existing micro-grid at USU EVR¹

- Power distribution
 - Indoor:
 - Starline track busway, three 400 A bus rails, DC +/- 600 V, AC 3ph 208 V, AC 3ph 480 V; modular plug system to connect any equipment or lab bench hardware into the bus bars
 - Reconfigurable connections between Starline bus bars, utility grid inputs, and outdoor roadway power panels
 - Outdoor
 - Electric roadway: 4 independent 400 A lines running to sections on the track, fused electrical disconnects, +/- 600 V DC or up to 480 V 3ph AC, 8 power distribution panels
 - Conduit laid to pull cables into building from solar power and generator
- Energy storage
 - 52 kWh, 600 A, 236 kW, 350 V commercial CIE systems Lithium Ion battery pack; built from 5 battery pack modules with individual 15 C peak discharge and 10C peak charge ratings
- Sources/Loads
 - 4-port 100 kW Princeton Power bidirectional grid tied inverter, includes 100 kW 480 V AC smart utility grid inverter interface, 100 kW 480 V AC micro-grid port, and two 50 kW DC micro-grid ports (for connection to solar panels or battery packs)
 - Two programmable 62 kW bidirectional AC/DC power supplies that can be used to emulate solar power, battery packs, and AC generators on the micro-grid
 - 20 kW ground mounted solar power array currently in procurement process with sixty 72 cell 320-340 W modules (vendor to be determined and construction planned for October 2017)
 - 20-45 kW natural gas generator (specifications to be determined)
 - EV Charging infrastructure
 - Three Level 2 AC EV chargers (two outdoor, one indoor)
 - DC Fast EV charger (planned with DOE/RMP WestSmartEV project)
 - 25 kW wireless EV charging pads (planned upgrade to 50 kW pads in 2017)
 - Lab equipment that can be tied into micro-grid as loads

¹ Company's response to DPU Data Request 7.22, August 30, 2017.

- 2000 hp 4WD vehicle dynamometer, 60,000 lb 4-column vehicle lift, 80 kW motor-generator test set, 20 kW chiller, welder
- Communications and controls
 - Hardware in the Loop (HIL) simulator, Opal-RT system
 - Dedicated Ethernet network for real time monitoring and control
 - Public USU wired and wireless internet

USU EVR micro-grid hardware improvements – Specifications to be determined

- DC optimizers with monitoring and control on solar panels
- Smart inverters on subsets of solar panels for discrete control
- Integration of smart inverters with existing battery storage
- Smart meters on microgrid loads without integrated communications