

INTRODUCTION:

With 1500 VDC inverters, long DC runs back to centralized skid and AC interconnects are becoming common.

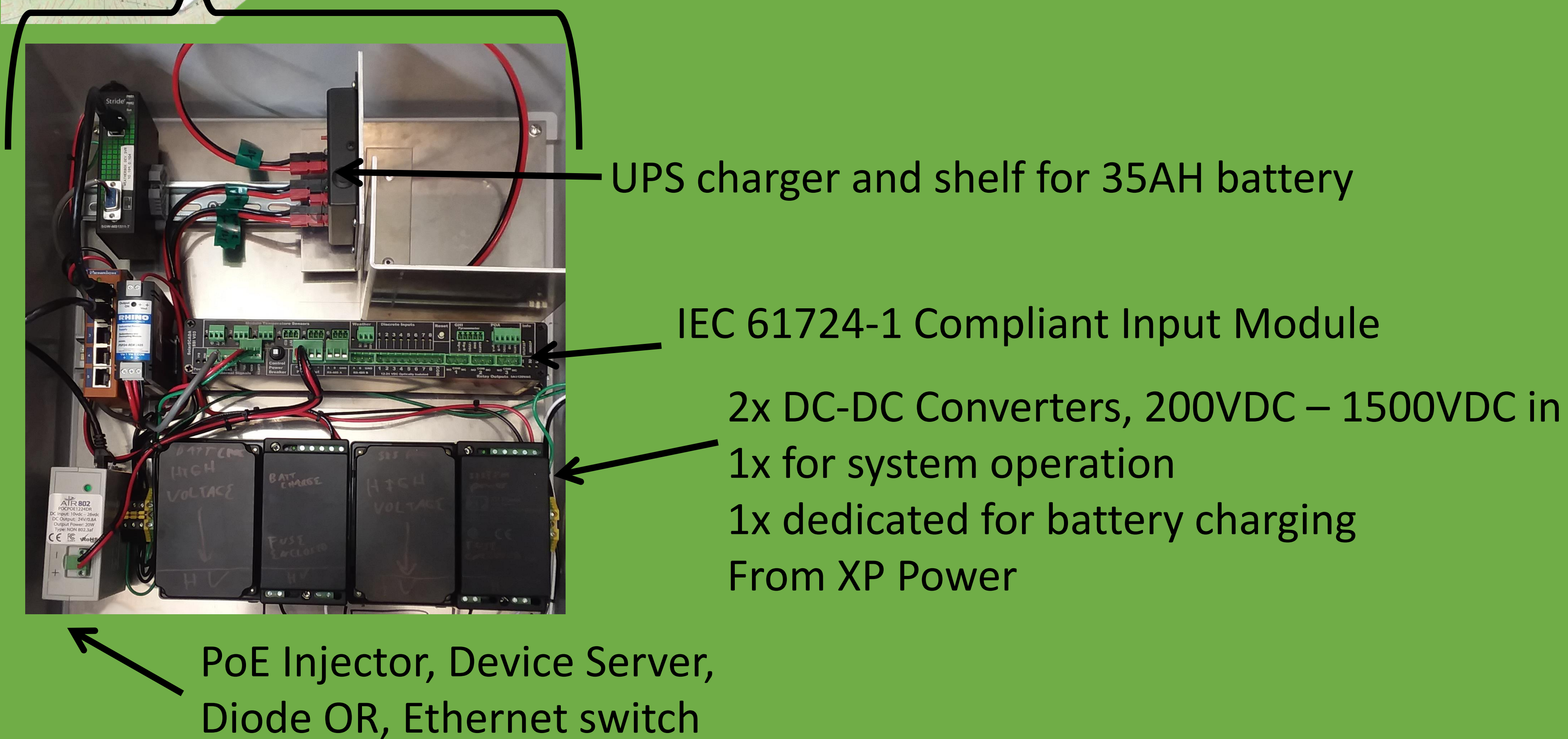
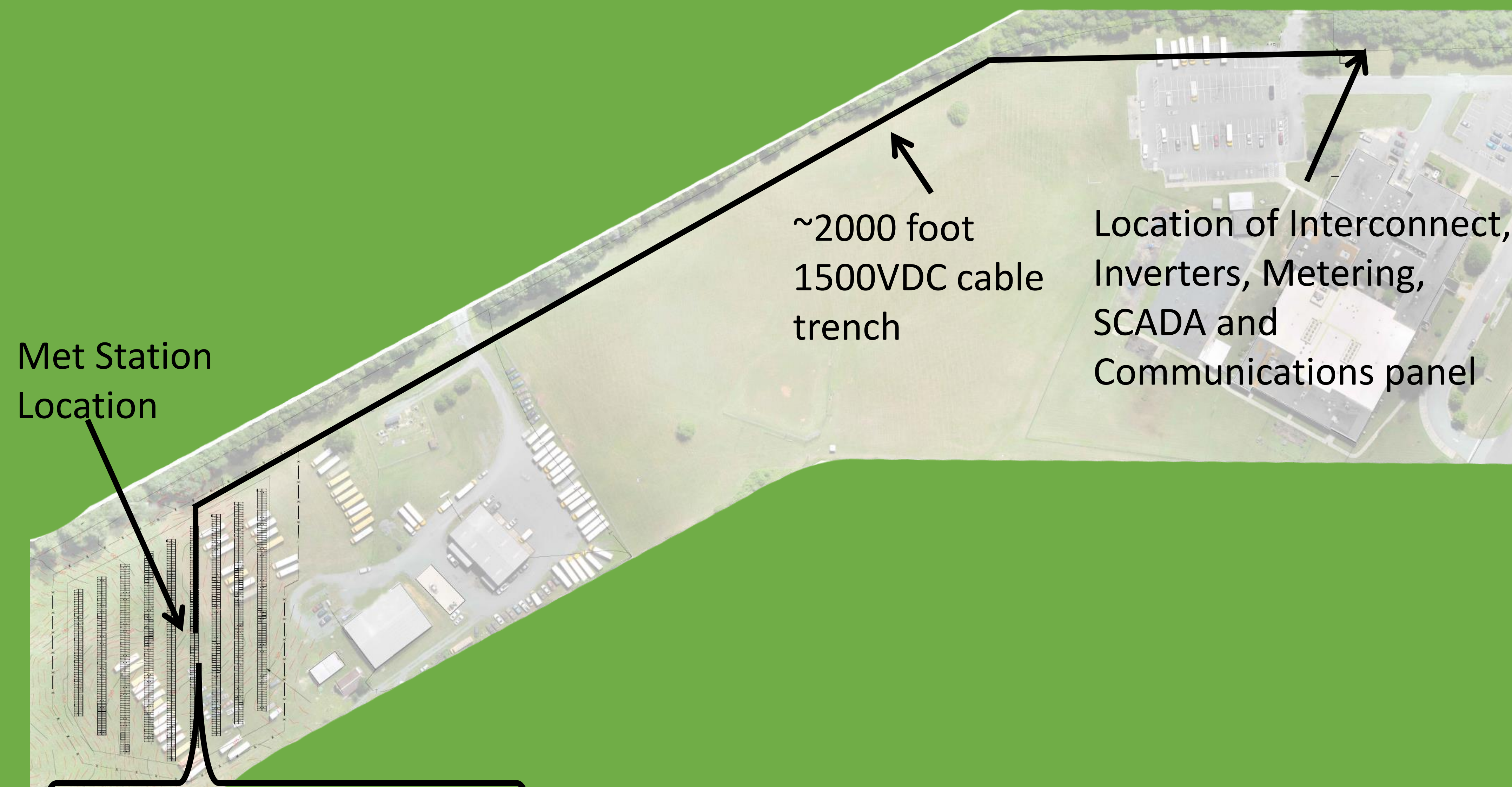
Appreciable cost savings on installation of solar monitoring systems is demonstrated by using the primary DC collection system to power remote sensing equipment directly from DC Combiner circuits.

This saves the need for small aux-power circuits, or extra standalone solar modules, in otherwise completely DC areas of a solar field.

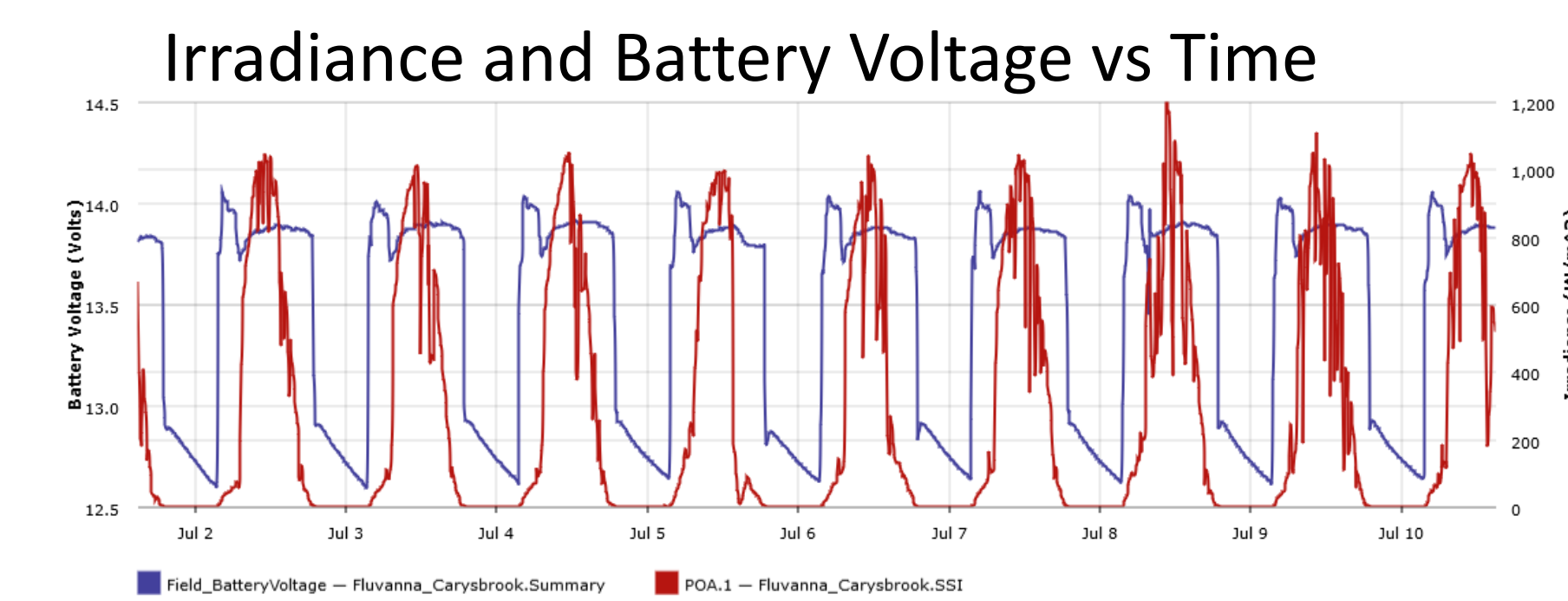
METHODS:

1. Faced with bidding the system at right affordably, SolarSCADA designed and implemented a 200-1500VDC powered Met Station operated from a spare DC combiner circuit.
2. This system was bench tested to deliver satisfactory performance and installed.
3. This design allowed the module temperature sensors, pyranometers, and MET station equipment to be installed exactly where needed in the field with zero extra field install cost.

Use Raw DC Array Voltage For Met Sensing Stations



RESULTS:



Battery Voltage (Blue)
Solar Irradiance (Red)

- Data gathering functions are identical to conventional AC/UPS solution with fiber connection.
- Battery Voltage never lower than 12.6 Volts, only 16.5% Depth of Discharge (DoD) daily cycle on 35AH battery.
- 5 Amp current-limited charge.
- Low DoD Provides 5+ year battery life from AGM, or longer with Gel batteries.
- Savings of \$60k in total project cost compared to installing transformers, conduit, and fiber equipment for traditional install

RESOURCES:

- www.solarscada.com
- www.xppower.com/products/dc-dc-converters

