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## HUNT ELECTRIC HIT BY SOLAR POWER

By Brok Thayn, Electrical Engineer, LEED AP

As part of Hunt Electric's environmental commitment, Hunt Electric has completed phase I of its solar photovoltaic test/training facility. The solar PV system was designed to power all the lighting in the CAD area of the office. The estimated energy use of the lighting in the CAD area is 4,006 kWh/year, and a power usage of 1.71 kW. The estimated energy production for this PV system is 4,112 kWh/year and a power production of 2.85 kW.

Figure SEQ Figure \\* ARABIC 1: Hunt Electric's 2.85 kW PV system

The Hunt Electric 2.85 kW PV system, shown in Figure 1, used three different brands of PV panels (SolarWorld 175, Suntech STP175S, and REC 220AE) and two different silicon technologies (monocrystalline and polycrystalline). There are a total of fifteen PV panels, five of each brand. Also there is a test bay for distributors to add different types of PV panels to the system for advanced monitoring and analysis of various PV panel options. Each PV panel is connected to an Enphase Micro-Inverter for a total of fifteen inverters. The outputs of the inverters are then connected in series on an AC bus to the utility. A traditional solar PV system connects the output of the PV panels to a DC bus and then to a single inverter. Some advantages of a micro-inverter systems include:

- Better system reliability with no single point of failure.
- PV panels can be mismatched, and can be added to the system as required
- An increased resilience to obstruction and shading.
- The PV system shown in Figure 2 shows the typical output of each PV panel and the result of snow shading the PV panels.



## Figure SEQ Figure \\* ARABIC 2: Snow Shaded PV Panels

The system is monitored with an energy management unit (EMU) that monitors and logs system performance down to a per panel basis. The EMU communicates with the inverters over the AC power neutral line. The EMU broadcasts PV panel performance to the internet and is then interfaced with the Enphase Enlighten Website. Then users can access anywhere in the world with an internet connection.

Figure 3 shows the Hunt Electric Solar production broadcasted to the Enphase Enlighten Website. It should be noted that the some of the functionalities of the website include: current power, today's energy, monthly energy, lifetime energy, and historical data (shown in Figure 4), all of which can be monitored on a per panel basis or an entire system basis.

## Figure SEQ Figure \\* ARABIC 3: Normal PV Power Production

## Figure SEQ Figure \\* ARABIC 4: Historical Data, Energy Production, and Carbon Offset

Hunt Electric is proud to be at the forefront of renewable energy and will continue to seek opportunities in the marketplace which will benefit our clients and the environment.

Click on the link below to learn about

**[Hunt Electric's to date Solar Power Production](#)**