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Subject: Solar house , El centro

The Azucena Romero residence at 838 Vine Street in El Centro has rooftop photovoltaic solar cells (see photo) with the inverter mounted next to a smart meter on the rear of the house. I measured the dirty electricity at 5 outlets in the house including the computer station and bedroom, with a Stetzer Microsurge meter. This measures rate of change of voltage with time (dV/dT), and gives a digital readout of dirty electricity DE (electrical pollution) levels in house wiring. At the same time, a Fluke 199 B two channel oscilloscope was plugged into the washing machine outlet on the back porch in the same outlet as the Microsurge meter. The upper tracing on the oscilloscope is the utility 60 cycle sine wave, and the bottom line is a tracing after the sine wave has been passed through a high pass filter to remove the 60 cycle signal. Readings were made with the inverter on and off. With the inverter off, the outlets were normal with dirty electricity levels between 30 and 70 units. With the inverter on, the outlets read between 1,430 and 2,200 units. With the inverter off, the oscilloscope tracing was normal, with it on, the high pass filter line shows a tracing characteristic of photo voltaic solar invert pollution at 20 kHz (See below). I also measured the electrical pollution in 40 feet of wire between the ground rod attached to the center tap of the pole- mounted transformer in the house picture and a ground probe. This is labeled as PNEV or primary neutral to earth voltage.

This house has serious electrical pollution caused by the solar inverter. I find the same pattern in every solar residence or business I have measured. I recommend deploying Stetzer capacitive filters to short out the high frequency electrical pollution in the house wiring. Also get rid of CFLs, and the DECT cordless telephone, other sources of electrical pollution. I'd strongly recommend leaving the inverter off until the pollution can be cleaned up.

Best, Sam Milham MD, MPH

