MNPV6 Disco swap out

This grid tie house in Hawaii had a code compliant and inspected pull switch for the required exterior AC disconnect. The following pictures show the pull switch installed and then replaced with a MidNite Solar disconnect. The MidNite disconnect could also have had the PV array disconnect in the same enclosure although on this installation only the 240VAC disconnect was used.

Figure 1 Square D pull switch. Works fine, just not what the customer wanted.

Figure 2 Tom checking to make sure the power is off.

Figure 3 Square D pull switch wiring. The shorting bar has been removed. Leg1 in and out on the left (black) and leg2 in and out on the right (red). The shorting bar (pull bar) has two pieces of brass that connect the ins and outs together when installed. This meets code, but is not very handy. You must first unscrew the cover, then pull real hard to get the switch disconnected. Not what you would want to go through in an emergency.

Figure 4 The Midnite MNPV6 Disco enclosure installed in place of the pull switch. A 2 pole 30 amp AC breaker is installed in the enclosure (MNEAC30-2P). The Neutral busbar is not used in this installation.

Figure 5   The black Deadfront with its integral green slider is snapped into place. Note breaker handles sticking through the slot at the top end on the slider. The green slider moves up and down based on exterior handle movement. This up and down action turns the breakers on and off. There is room for up to 6 breakers total. The MNPV6 Disco is ETL listed for 240VAC and 600VDC breakers in the same box. A 600VDC breaker will take up four more slots.

Figure 6 The cover/handle assembly installed with disconnect plaque reinstalled onto the new MidNite disconnect.

Figure 7   Our happy installer, Tom Carpenter.

Tom has been installing inverters on the Big Island of Hawaii for 18 years. Tom now works for MidNite Solar in technical sales.

Figure 8 Underside of the 5000 watt array. The customer wished for a carport style array where the solar panels do not show. This reduces output and requires additional module cleaning.