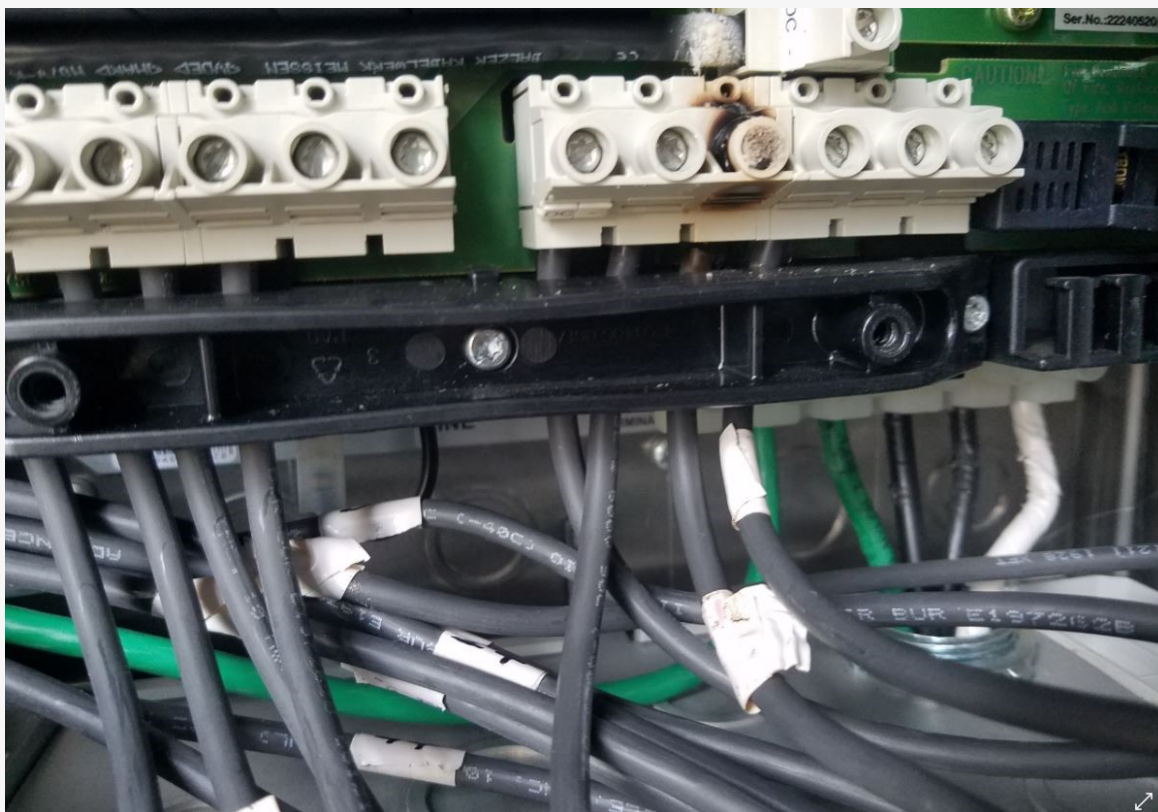


January 31, 2018

Repair to 20.4 kW Photovoltaic System on Shop and Barn Performed by SolarKi



During 2017, our bills from PGE for our farm meter continued to rise. We previously had a credit on our net-metering agreement with PGE and used up some or all of the excess during the winter months. Starting last spring (2017) we never seemed to catch up as we normally do. As this became an ongoing pattern, Ken checked energy consumption and we still could not figure out why we were getting ever-increasing larger utility bills.

On January 31, 2018, Allan Karing from SolarKi came to the farm to discuss installing the 6.6 kW panel on to the roof of Santiam Valley Farm Retreat which was being rebuilt after the fire in July of 2014. We mentioned to Allan our other electrical dilemma. Allan checked the wiring on the horse barn and shop and after an hour or so, he opened the panel box on the shop and discovered that there was a burnt connector. Because of this, about 1/3 of our system was not working. Allan moved the wire over to another connector and our system was back in order and generating power.

And so there was another lesson we learned. Ken checked all of our farm electrical systems (aquaculture pumps, well pump, duck cabin, shop, sheep barn and horse barn) and he could not find a problem. Allan checked the connections on all of the solar panels on the roof of the horse barn and shop, again not finding any problems. What we never expected was checking the wiring inside of the solar panel, which we should have checked first.

As we continue to maintain our 20.4 kW system for the farm, we continue to learn and share with others what we are learning from our photovoltaic electrical systems. The probable cause of this issue was a slightly loose connection that began to arc resulting in complete loss of connection. This occurred around the same time that we had the tornado episode which took out two trees and the two of the solar panels from the shop.