

Photovoltaic Repairs

April -June, 2017

On April 27, 2017 at around 4 p.m., a tornado hit the front pond, went onto the top of the fish shed and blew off a large solar blanket on the roof, severing the 3" PVC pipe and other pipes attached to the blanket. The heavy blanket blew through the air, went up over the shop and smashed into a solar photovoltaic panel on the south side of the shop and then blew another 150' until it hit the base of the wind turbine and fell to the ground as the mega wind moved away.

Our hired hand, Zach, watched the entire event. Kathy saw the solar blanket flew off, but she thought it was a shear shade cloth on top of the dog kennel. Zach and Kathy went and discovered a solar panel on the ground (about 50' past the shop) along with metal roofing that had torn off of the top of the shop. It was not raining but it was pretty awful outside and mean weather was approaching so we carried the panel into the shop.

Later, we observed that one other panel on the roof was hit. We could not get up on the roof due to rain and it was unsafe. When we finally got a non-raining day, a friend crawled up onto the roof and reattached the metal that had torn off. We also confirmed that another panel had been hit by the solar blanket and needed to be replaced.

We contacted Solar Ki, now based in Eugene. At first it was noted that it might be impossible to replace the panels. Fortunately they found a company in California that had panels that would work on our system. We ordered two Trina panels at a cost of \$522. Solar Ki installed the panels on June 13th and the system was turned on.



Smashed PV panel carried into shop.



Our crew, Nils and Ken Dunder, carrying new panel for mount on roof.



Solar Ki repairing solar panels on shop.

Our PV system is linked so that all panels must functioned together, rather than having a system where each panel can function independently. Since one panel flew off a fuse disabled the entire system. When we replaced the panels, we learned we needed to replace the fuses as well. We purchased two fuses for \$15 from North Coast Electric in Salem.

Total cost: \$522 to replace two panels, \$364 for installation, \$15 for fuse = \$901.