

Date: April 11, 2010  
From: Bob and Sue Scott  
Subj: Solar Hot Water Installation

To whom it may concern:

This is a strong letter of recommendation for Dana Orzel and his crew at Great Solar Works, and to the incredible solar hot water system they installed for us one year ago. It has worked flawlessly, supplying ALL our hot water (the significance which you will appreciate as you read on). The electric backup has only run for a TOTAL of three hours in that entire year, and that was only after several days of cloudy, stormy weather. The rest of the year, it has run on a tiny 45 watt pump, producing 180 degree F water! That compares to the old electric tank that ran on 12,000 watts to produce 140 F water.

We live in southwest Colorado and have a bed and breakfast – and imposed a business requirement on Dana that his design always produce sufficient hot water to supply our B&B (Sundance Bear Lodge – [www.sundancebear.com](http://www.sundancebear.com)) with higher demands than normal family usage – guest water usage on top of lots of laundry. Dana designed the system with the one concession to our extra usage – a 120 gallon tank instead of the normal 60 or 80 gallon. This was necessary because of a manufacturing design issue – the electric backup on all these tank systems only heat half the tank, so a 60 gallon tank would become a 30 gallon effective tank if you had to depend on the backup.

He and his crew installed the system over a three+ day period, including one with snow during an April time slot when we had no guests. They did electric and custom plumbing, knew exactly what they were doing, were very professional and clean. We housed the crew in our lodge rooms, giving them added incentive to complete it quickly, since that was their hot water for showers.

This was a retrofit to our existing house, so they had to accommodate the existing space and power constraints. The system uses evacuated tube design, the above mentioned 120 gallon tank with extra insulation, a three level electric backup system and outputs to a thermal mixing valve to deliver 125 F water to the house so we don't burn our guests.

When you're evaluating merchants, remember both sides of the design spectrum – efficiently getting energy from the sun AND not getting too much.

Even though Great Solar Works was the most expensive quote, we chose his design for two primary reasons: (1) the evacuated tubes are more efficient at collecting the solar heat and (2) his was the only design that dealt effectively with excess heat by positive action. By that I mean the system has an extra temperature controlled diverter valve and a small "exhaust" heat exchanger on the roof. When it reaches the high limit mark because your tank is up to temperature, the diverter valve sends the fluid through this outside heat exchanger instead of your hot water tank, dumping the energy back into the atmosphere. The other vendors just claimed theirs wouldn't overheat without giving a justification. Think about that when you go on vacation in July and nobody is using hot water. Do you want to have to turn it off and drain the system?

Conclusion: we are very happy with the system and the experience with Great Solar Works. The extra cost was well worth the money. You can contact us through the Sundance Bear website if you'd like any more details. And I predict that for the first month, you'll do like I did – checking it several times a day to see if it is really working – trust me, it was and still is.

By the way, when the city inspected the completed installation, they commented that this was one of the best they had seen.

Thank you, Dana

Bob and Sue Scott  
Sundance Bear Lodge, Mancos, Colorado

Contact information available upon request.