ADVANCED ENERGY SYSTEMS

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June 8, 2011

Oregon Public Utilities Commission
550 Capitol St NE #125
PO Box 2148
Salem, Oregon 97308-2148

RE: Request for a waiver of the capacity qualification rule as written in OAR 860-084-0100 (e), in relation to the subject property located at 63045 Stag Dr. Bend, Oregon 97701 – Rex Daines.

Issue: We reserved an 8kw solar PV system in the recent Oregon Solar Incentive Program opening April 1st, 2011 on behalf of our client, Rex Daines. Pacific Power subsequently denied this reservation due to the fact that this residence is under construction and no historical electricity usage could be determined.

OAR 860-084-0100 (e) states: Capacity of qualifying systems sized to provide an estimated energy generation equal to 90 percent of the rolling average of the usage at the premises at which the qualifying system will be installed. **If this average cannot be determined, the nameplate capacity can be no more than 90 percent of a rolling average of three year's usage by a similarly situated customer, as determined by the electric company.** The methodology used to calculate this energy generation will be consistent with the methodologies used by the Energy Trust of Oregon and the Oregon Department of Energy.

Our Position: Pacific Power should consider a ***similarly situated*** customer with a residence equal in size to the subject property consisting of 7500 square feet. OAR 860-084-0100 (e) allows for buildings that do not have an established historical usage, noting that the utility can look to a 'similarly situated customer.' If comparable property data is unavailable to Pacific Power, we offer the suggestion of looking to readily available national averages for both annual household electrical consumption, and the national average residential home size.

The average annual household electricity usage range is 10,000 kwh – 12,000 kwh. This information was obtained at www.eia.doe.gov/tools/faqs/. (Screen shot attached for your review.)

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We found information on the average American home size at www.wikipedia.org. The average size listed is 2300 square feet. (Screen shot attached for your review.)

Average Home Size = 2300 square feet. Average Electrical Usage = 10,000 – 12,000 kwh

The subject property is 7500 square feet, which is over three times larger than the national average residence. It is reasonable to conclude that because of the subject property's size, the electricity usage will be greater than the average electrical usage.

We believe that the planned 8 kw system is reasonable and should be allowed because under the current capacity requirement described in OAR 860-084-0100 (e), this system would be acceptable when considering national average electrical consumption and average residence size. Due to the fact that the subject property is significantly larger than the average home and the annual electrical usage is expected to significantly exceed the average electrical usage, we believe that the 8kw system will be well below the 90% capacity requirement for the subject property and should be allowed.

Action: We respectfully ask the Oregon Public Utilities Commission to accept our request for a waiver to the capacity rule and allow us to proceed with our 8kw system.

Thank you for your time and consideration.

Respectfully,

/s/ S. Matthew Lind

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FREQUENTLY ASKED QUESTIONS

How much electricity does an American home use?

In 2008, the average annual electricity consumption for a U.S. residential utility customer was 11,040 kWh, an average of 920 kilowatt-hours (kWh) per month. Tennessee had the highest annual consumption at 15,624 kWh and Maine the lowest at 6,252 kWh.

Average monthly residential electricity consumption, prices, and bills by state (Excel)

Detailed data on residential energy consumption for selected years.

Last updated: March 29, 2010

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Residential sector [edit]

The residential sector refers to all private residences, including single-family homes, apartments, manufactured homes and dormitories. Energy use in this sector varies significantly across the country, due to regional climate differences and different regulation. On average, about half of the energy used in U.S. homes is expended on space conditioning (i.e. heating and cooling).

The efficiency of furnaces and air conditioners has increased steadily since the energy crises of the 1970s. The 1987 National Appliance Energy Conservation Act authorized the Department of Energy to set minimum efficiency standards for space conditioning equipment and other appliances each year, based on what is "technologically feasible and economically justified". Beyond these minimum standards, the Environmental Protection Agency (EPA) awards the Energy Star designation to appliances that exceed industry efficiency averages by an EPA-specified percentage.

Despite technological improvements, many American lifestyle changes have put higher demands on heating and cooling resources. The average size of homes built in the United States has increased significantly, from 1,500 sq ft (140 m^2) in 1970 to 2,300 sq ft (210 m^2) in 2005. The single-person household has become more common, as has central air conditioning: 23% of households had central air conditioning in 1978, that figure rose to 55% by 2001.

As furnace efficiency gets higher, there is limited room for improvement—efficiencies above 85% are now common. However, improving the building envelope through better or more insulation, advanced windows, etc., can allow larger improvements. The passive house approach produces superinsulated buildings that approach zero net energy consumption. Improving the building envelope can also be cheaper than replacing a furnace or air conditioner.

Even lower cost improvements include weatherization, which is frequently subsidized by utilities or state/federal tax credits, as are programmable thermostats. Consumers have also been urged to adopt a wider indoor temperature range (e.g. 65 °F (18 °C) in the winter, 80 °F (27 °C) in the summer).

One underutilized, but potentially very powerful means to reduce household energy consumption is to provide real-time feedback to homeowners so they can effectively alter their energy using behavior. Recently, low cost energy feedback displays, such as The Energy Detective or wattson,[4] have become available. A study of a similar device deployed in 500 Ontario homes by *Hydro One*[5] showed an average 6.5% drop in total electricity use when compared with a similarly sized control group.

Standby power used by consumer electronics and appliances while they are turned off accounts for an estimated 5 to 10% of household electricity consumption, adding an estimated $3 billion to annual energy costs in the USA. "In the average home, 75% of the electricity used to power home electronics is consumed while the products are turned off."[6]