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STATE OF VERMONT

PUBLIC UTILITY COMMISSION

Case No. 19-0855-RULE

RE: Proposed revisions to Vermont Public Utility Commission Rule 5.100

May 17, 2019

COMMENTS OF SOLAFLECT ENERGY

The Vermont Public Utility Commission (“PUC”) issued an order on April 16, 2019 opening a proceeding to review Rule 5.100 which governs the construction and operation of net-metering systems. The Commission requested comments addressing various items, including “any other issues with Rule 5.100 that should be addressed through the rulemaking process”. The following comments are provided by Solaflect Energy.

Preamble

Rule 5.100 governs the construction and operation of net-metering systems. Vermonters overwhelmingly desire solar energy, and overwhelmingly desire solar energy on their premises if there is a viable option at an attractive price.

Vermonters have a fundamental right to install an oil or propane furnace, even though houses regularly explode from propane and natural gas explosions. A recent report from the International Monetary Fund, not known as a bastion of environmentalism, estimates that the global annual subsidy to fossil fuels is \$5.2 trillion (<https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509>).

However, Vermonters do NOT have a fundamental right to have solar energy on their premises as codified in Rule 5.100. Furthermore, every rule and regulation in Rule 5.100 increases the cost of solar energy. The Solar Energy Industries Association estimates that the permitting and inspection process adds about \$7,000 in direct and indirect costs, approximately \$1.00 per watt, to a typical residential solar energy system (<https://www.seia.org/news/solar-industry-unveils-campaign-streamline-solar-permitting>). It is a basic tenet of economics that raising the relative price of one item will cause consumers to switch towards the other item. In this case, the PUC rules increase the relative cost of solar, and incents Vermonters to use more fossil energy than they would like.

The climate data is becoming more worrisome on a near daily basis, from the California fires, to the Midwest flooding, to the inundation of Miami. Closer to home, Irene caused \$733 million in damage. My own personal driveway was washed away twice in seven years (the first time during Irene) due to a 100-

year flood culvert being filled beyond capacity twice and overflowing towards my driveway. The urgency of a switch to renewable energy is increasing constantly.

Residential Approval Process

When I am at a national solar trade show, the single best solar policy of Vermont that I discuss with others from around the country is the statewide 10 business day “deemed approved” permit process. This is the single best policy that has been implemented by the PUC for residential solar systems. A 30 day approval process will be very costly for Solaflect Energy. Every year in November, we suddenly get a number of inquiries of people wondering if they can get a solar system installed before the end of the year in order to get the tax credit. Although it is very challenging to install a Tracker in December, every year we try to satisfy these customers, with the clear caveat that it is weather dependent. We often get approval to build in early to mid-December and typically succeed in installing many of these systems. A 30 day approval process would eliminate this business. We have never laid off staff through the winter despite the lack of revenue in those months. Losing the business in December would add a month to this money losing period and we would have no choice but to lay off some staff. This time period will be particularly important to customers over the next three years as the tax credit declines on January 1 in each of the next three years, coincident with the planned decline of Vermont incentive payments.

Do not lengthen the 10 business day “deemed approved” permit process. The model from the Solar Energy Industries Association is an “instantaneous permitting regime for home and small-commercial solar and battery storage systems installed by certified installers and contractors”. Vermont should go forward rather than backward in the permitting process and develop an instantaneous permitting regime. [5.102(A), pgs. 3-4; 5.105(E); pg. 14].

CPG Amendments

Based upon a decade of international professional policy experience, and a Ph.D. in economics, I would argue that the following are some basic first principles of public policy:

1. The State has no business regulating a brand or model number of anything except in extreme circumstances.
2. Almost all regulations have a private cost. A regulation should have a demonstrated public benefit before implementation, and ideally it should be possible to show or at least estimate that the public benefits outweigh the private costs.
3. If there is no public benefit to a regulation, it should be eliminated.

The PUC Memorandum of April 17 was particularly onerous for Solaflect Energy by regulating the brand, model number and wattage of PV modules to be installed. This Memorandum provided additional guidance to existing rules requiring that any change of any of these attributes would require an amended CPG with a 10 business day waiting period. We sold a large number of systems between November 2018 and May 2019, and applied for and received a CPG immediately after executing a customer contract. When starting to install these systems in late April and early May, there were very few that we could install. For example, one brand of 300 watt modules in many contracts (which are very explicitly written to allow variations in equipment to respond to market conditions) is no longer available, and we can get 295, 305 and 310 watt modules in that brand. Alternatively, we can get 300 watt modules of a different

brand. We signed contracts for a premium 360 watt module, but those are now only available in 365 watt versions. The market really changes this fast, and any of these substitutions now require an amended CPG. The State should NOT be in the business of regulating a brand, model number, or 2% change in power production (less than the minute by minute change from Vermont cloud cover). These changes are particularly onerous for Solaflect Energy in spring, as we utilize a 9,000 pound precast concrete foundation. Road postings and wet field conditions already dramatically constrain our installation options. The additional juggling required from this PUC administrative rule considerably added to the stress level of our staff and cost tens of thousands of dollars. Our equipment and install teams are busy nearly every day of the season, and we never recoup days lost by not installing.

In the weeks leading up to the submission of this letter, I asked multiple people in the Public Utilities Commission, Public Service Department, and the Agency of Commerce and Community Development to enumerate public benefits from this Memorandum. Not one person was able to enumerate any public benefit to this onerous rule. I can guarantee that the private cost to Solaflect Energy has been high. There is minimal or no benefit to this regulation, so it should be eliminated.

De Minimis changes to a CPG should not require an amendment. These include brands, model numbers, and module power ratings (maximum production is controlled by the inverter, not the modules).[5.109(A), pg. 33 should not pertain to de minimis changes, including brand, model number, module power ratings of less than 10% change, names, addresses, or any other aspect of the system that does not demonstrably and significantly impact grid operation].

System Size

There should be a right to solar that is stronger than the right to fossil fuels. A 15 kW limit on residential systems is too small. We have increasing numbers of customers that are repeat customers and are buying a second or third tracker or even more. 15 kW is a large system for historical electricity usage patterns. However, the only way to meet climate goals is to electrify additional components of our energy consumption, and many Vermonters are doing exactly that. Once someone adds heat pumps and electric cars to their energy mix, 15 kW is no longer a large system.

The size limit should be increased to 50 kW for residential and small commercial systems to enable instantaneous permitting. Category I Net-Metering Systems should be redefined as up to 50 kW (5.103, pg. 6). Delete Section 5.106, pg 15.

Preferred Siting

Restrictive siting requirements are costly and raise the relative price of solar compared to fossil fuels. Multiple changes should be made to this system.

- *“Category IV Net-Metering System” should be expanded to less than or equal to 500 kW [5.103, pg. 6].*

Some of the largest parking lots in Vermont are at ski areas, and would not be considered “impervious”.

- *Definitions under preferred site (A) and (B) [pg. 9] should expand the definition to include parking lots at ski areas, fairgrounds, etc.*

Solar in a “pit” inherently does not make sense. There are many old “pits” in Vermont that could be regraded and/or reclaimed, which inevitably expands the “disturbed” portion of the site to reduce the steep banks inherent in pits. Solar should be allowed in an expanded area around such a reclaimed pit.

- *Eliminate “the energy generation component of the plant is located entirely within the disturbed or previously disturbed portion of the extraction sit [Preferred Site 6(b), pg. 10]. This should be expanded to include areas around the pit used in the reclamation process and some of the buffer zone.*

Not all municipalities are perfectly prescient with regards to solar.

Retain the struck out language allowing a joint letter of support [Preferred Site (7), pgs. 10-11].

RIGHTS TO SOLAR

The grid of the future will need to allow a great deal of innovation allowing distributed generation, micro-grids, the use of electric vehicle batteries in innovative ways, and additional flexibility not yet imagined. Vermont should not stifle this innovation, and it should stand by the rights of Vermonters to utilize solar energy if they so choose. In the 1930s, it was not thought economically feasible to provide power to remote areas. The Tennessee Valley Authority was created in 1933, and the Rural Electrification Act was passed in 1936, and proved the naysayers wrong. In 2019, we need to overcome similar beliefs that it is too expensive to modernize our grid to improve resilience, security, and 100% access to renewable energy. Anyone in Vermont that wants solar at their house should have a guaranteed right to install solar and to connect to the grid. It is not in the long-term future interest of Vermont for people to disconnect from the grid. For the first time in our history, we have customers seriously considering this option, and that will only increase as grid connection rules become more onerous and energy storage options are reduced in cost.

Guarantee the right of Vermont residents to have solar on their property and to connect to the grid without any cost. Interconnection should be guaranteed without cost for residential and small business customers, and for group net metering. Interconnection fees for larger systems should be reduced as far as feasible. [5.105(D), pg. 14; 5.105(C), pg. 13; 5.106(H), pg. 22; 5.107(10), pg. 28; 5.131, pg. 59].

Changes for the better

We agree with combining major and minor amendments, as that has only caused confusion [5.103]. We also agree that a 2 year installation period [pg. 36] is a good idea.

Vermont Jobs

Solalect Energy has the highest local content per dollar of any solar installed in Vermont. As a Tracker, we get 40 percent more energy per PV watt. All solar modules are imported into Vermont, and most are imported into the U.S. We get that 40% extra energy from equipment that is largely made in Vermont. For example, the Tracker is assembled in Norwich, the steel is fabricated in St. Johnsbury, and the electronics are assembled in Springfield. When installing our community solar fields, all labor was from Vermont or a few miles across the border into NH. The only time that we have installed fixed solar was the year that our shop burned to the ground and our Vermont based steel fabricator went out of business.

We hired a racking company to install the fixed racking and install the modules onto it, as we were not experienced with fixed systems. The team that arrived were from Colorado, Nebraska, New Jersey and North Carolina. They spent a few dollars on food and lodging, but otherwise all of that investment left the state. We are now selling our systems into four states, with more on the horizon. We would like to manufacture these systems in Vermont and export out of the state, but we require a supportive home state. The PUC has cost our business hundreds of thousands of dollars in lost revenue, and our loyalty is being severely tested.

Thank you for this opportunity to comment, and Solaflect Energy looks forward to further involvement in this rulemaking process.

Sincerely,

A handwritten signature in blue ink that reads "Bill Bender". The signature is written in a cursive, slightly slanted style.

Bill Bender
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