

Sundog Solar LLC  
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April 09, 2021



Senator Craig Hickman, Senate Chair  
Representative Mike Sylvester, House Chair  
Committee members on Labor and Housing

### LD 1231; An Act Concerning Climate and Community Investment Projects

Dear Senator Hickman, Representative Sylvester, and Members of the Labor and Housing committee,

I am providing written testimony on behalf of Sundog Solar LLC in opposition of LD 1231.

My name is Danny Piper and I am one of the Co-Owners of Sundog Solar a family owned, Maine based Solar development and installation firm located in beautiful Searsport.

My father Chuck Piper and I started Sundog back in 2009 providing renewable energy products, small PV and Solar heating designs and installations to our customers throughout Maine.

Over the past 11 years we've stayed small but grown into a 30 employee company with a mission to deliver megawatts of high quality solar electric systems to our residential and commercial customers.

Our smart, dedicated employees are committed to contributing to Maine's clean energy transition. They are present and respectful of the opportunity to be gainfully employed, long term in the solar industry in our small coastal town. Many of them have been trained from the ground up to perform gainfully for our company in all of the different departmental actions that solar development requires.

Our dedicated sales, engineering and installation staff care greatly about the quality and accuracy of our projects. As boots on the ground for over 10 years developing, designing and installing solar PV systems, we know well how involved the mechanical assembly of most solar PV systems is. We understand that driving a helical pile or screw anchor foundation of a UL listed solar racking system is a task non related to the electrical component of the solar PV system. We also recognize in our installation process that the solar racking system is always first to be installed. We understand through experience that the mechanical assembly of the

racking systems often provide the equipment bonding pathway for the “safety grounding circuit” of the solar PV system. This said, any listed racking system has a mechanical assembly process and installation manual. Through experience of utilizing many different racking systems over the years, the quality of the “mechanical/bonding” attachment points often take care of securely “bonding” the pv system, by nature of how the mechanical assembly is performed. It leaves very little room for improper interpretation of the “mechanical/bonding” of the racking system.

It is for this reason that Sundog Solar feels strongly about disclosing the language under section

Sec. 2. RSA §1101, sub-§2, as amended by PL 2017, c. 198, §2, is further amended to read: 2. Electrical installations.

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Installation of photovoltaic systems includes but is not limited to the installation of **supporting structures, such as frames, racks, rails, purlins and any part of the supporting structure that has an Underwriters Laboratories LLC listing as a raceway, and footings.**

Inserting language to address the **real** “electrical components and assembly scopes of work” of the photovoltaic system with...

Photovoltaic Source Circuit wiring, Photovoltaic output circuit raceways and wiring, Inverter or DC utilization equipment raceways and wiring, Inverter input and output circuit raceways and wiring, Photovoltaic AC raceway and equipment wiring.

The problem with deeming the “Installation of Photovoltaic systems including but not limited to the installation of **supporting structures, such as frames, racks, rails, purlins and any part of the supporting structure that has an Underwriters Laboratories LLC listing as a raceway, and footings,** Is that it limits non heavy mechanical/electrical bonding activities to licensed electricians only. The larger problem at hand with this is the limited ration of 1:1 per Maine State Licensed Master and Journeyman electricians.

In a practical sense Maine State Licensed Electricians are not going to school and working in the trades to gain proper experiential hours to be eligible for licensing because they are interested in Mechanical/bonding assembly work of solar PV racking systems. Instead these individuals have worked hard to perform electrical scopes of work. This problem becomes larger when the assembly of roof mounted solar PV racking systems is introduced. From a practical sense any company is hard pressed to find qualified individuals to perform this task, but to request licensed electricians to perform this task is entirely more limiting to the ability to assist in the market demands and state legislative goals of Net Energy Billing and the installation of Photovoltaic systems.

It is for this inherent conflict that Sundog Feels strongly about the proposed above wording. We are also in favor of specific limited licensing for Solar PV installations. Many other states in the

United states have provided alternative licensing or limited licensing to allow for non Journeyman and Master Electrical licenses to participate in the “mechanical/bonding” assembly of PV systems legally and legitimately. Below are several

It is important to consider the following while crafting legislation around who can and can't work on photovoltaic systems and the very different scopes of work that they entail...

“Some factors to consider with respect to licensed electrician-to-non-licensed worker (apprentice) ratios include:

- The number of licensed electricians in the state and existing non-solar related demand for those individuals.
- The anticipated labor force required to meet solar installation demand.
- The various aspects of solar installation that require a licensed electrician under existing statutes and rules.
- Whether there are elements of electrical work currently required to be performed by a licensed electrician that can safely be performed by a non-licensed electrician.
- Whether the ratio requirement that applies to non-PV work is equally applicable to PV installations or whether a different ratio should apply.
- The change in installation costs that would result from a different ratio requirement or changes to the definition of “electrical work” related to PV installations.
- Whether technological advancements in solar panels, inverters, racking and mounting equipment, electrical systems, and other equipment in conjunction with current licensing requirements necessitate modifications to licensing requirements, such as the definition of “electrical work” or ratio requirements. A review of these and other considerations can help a state or local jurisdiction identify whether modifications are warranted:
- Provided additional guidance and clarity on the scope of solar installation work that must be performed or supervised by a licensed electrician.”

Respectfully

Danny Piper  
Sundog Solar  
C-Owner

Resources:

<https://irecusa.org/workforce-development/workforce-strategies-solutions/solar-licensing-database/>

<https://www.cesa.org/wp-content/uploads/Standards-and-Requirements-for-Solar.pdf>