



## Shedding Light on Safety for Solar Installations

The sun provides light, warmth, vitamin D, and an abundant renewable energy source. In an increasingly popular trend, many people are turning to solar power for electricity. If you are considering adding solar to your home or business, first do a thorough assessment to make sure you do not get burned.

“A renewable energy system can be a valuable long-term investment,” says Erin Hollinshead, executive director of the Energy Education Council’s Safe Electricity program. “Homeowners and small business operators should do some good hard looking before leaping into one to ensure they will get value for their investment.”

While it is important to consider if solar energy can help meet your goals, be cost effective, and if it is even possible for your location, it is even more important to investigate solar panel electrical safety issues before installing the system.

**If you have any questions about solar please contact us at (605) 463-2507.**

Make sure to hire a qualified installer of the system. Improperly installed solar panel systems increase the chance of a faulty unit, which could cause shock or fires.

One of the most common types of solar systems

in the U.S. is a photovoltaic (PV) system. PV devices convert sunlight into electrical energy. These solar panels use both direct and scattered sunlight.

For homeowners, these are commonly mounted on the roof for easy access to the sun and to save space. Make sure your roof’s structure is strong enough to hold the additional weight of a solar system.

These systems are exposed to outdoor weather conditions which increase the aging process. According to the Fire Protection Research Foundation (FPRF), heavy wind can stress the panel, hail can cause cracking on the panel, and snow and debris can affect the energy performance.

Therefore, an on-going maintenance schedule should be developed to ensure the safe operation of these systems. The FPRF suggests maintenance procedures to help prevent fire or damage, including:

- Visually inspect the equipment and connections for signs of damage or degradation.
- Visually inspect electrical junction boxes and raceways to see if conductors are damaged and in need of repair or replacement.
- Visually inspect string conductors to identify physical damage that needs repair.

It is important to provide easy and safe access to the roof to allow for effective inspection, maintenance, and repair for the PV system.

However, roof-mounted panels could cause problems in the case of a fire. The FPRF explains that solar panels cannot easily be shut down, so electric shock is the primary danger, especially during the day when sunlight is powering the system. A PV solar system damaged during a nighttime fire, which once exposed to sunlight, could begin to generate electricity, and create a shock hazard or re-kindling of the fire.

On roofs where solar panels take up a large amount of space, these installations can inhibit emergency responders from doing their job efficiently during structural fires. Vertical ventilation, where a hole is cut through the roof of a building to release smoke, is a common maneuver that has been used to save lives and increase visibility of victims. When solar panels prevent firefighters the ability to gain direct access to the fire, a person or family is put at a higher risk of smoke inhalation and risk of death.

The solar panel equipment can also pose tripping, slipping, and snagging hazards, and broken panel glass can cause cutting hazards to first responders and equipment.

If you have any questions about solar please contact us at (605) 463-2507. If you are interested in solar, the first step is to contact us and fill out an application.