safety matters

Construction

From your safety partners at Peabody Insurance Agency

Electrocution Prevention – Solar Panel Technicians

Solar photovoltaic (PV) technicians and solar installer roofers have a particularly dangerous job because it combines the risks of electrical work with the dangers of working at heights.

Learn more about the hazards of your job and the importance of safety, including misconceptions you may have had, with this list of common myths and facts about PV module installation.

MYTH: The biggest sources of solar panel fires are overheating during the hottest hours of the day and spontaneous combustion of the panels due to extremely strong sun.

FACT: Most solar panel fires happen because of faulty wiring or incorrect installation. It is important to assure clients that the panels are not at risk of catching on fire under normal circumstances.

To prevent fire from faulty wiring, be sure to use the correct wire size and to ground all electrical systems properly. Also, it is important to routinely check the system's charge controller.

MYTH: Turning off the building's main breaker will shut down all power systems, therefore making it safe to install or repair solar modules.

FACT: Pulling the main breaker will shut down the utility power, but it will not stop the solar panels from producing power.

The only way to stop the flow of electricity in a solar system is to stop the source of power, which is the sun. When working on installation or repairs, cover the face of the panels with opaque material. Never touch the terminals while the modules are still exposed to light. Also, remember that it may take a while for the panels to cool off after sun exposure, so wear the proper personal protective equipment (PPE) when performing any work.

MYTH: Voltage from PV modules is not high enough to be hazardous.

FACT: This myth is partially true in that the voltage from a single PV module may not be strong enough to cause serious harm. However, when connected in a series, electrocution from PV modules may be fatal. Always use the proper insulated tools to prevent injury in this situation.

MYTH: Wiring is the only electrical risk associated with solar panel installation.

FACT: Recent injuries on PV module installation sites have largely been attributed to electrocution from nearby high-voltage power lines.

Aluminum mounting rails and ladders are part of the solar panel installation process, and workers don't often think of them as hazardous. However, inadvertent contact between either of these items and an overhead power line could prove fatal.

To prevent electrocution via mounting rails or ladders, stay a safe distance from power lines. Conduct a preliminary assessment of the site to identify all potential hazards before beginning work and have a co-worker stand watch if the job requires coming into proximity of power lines. If there are overhead lines in the area, a good rule of thumb is to maintain 10 feet of distance from the line for the first 50 kilovolts (KV) of power and an additional 4 inches for every 10 KV thereafter.

Not all electricity is created equal. Solar energy and solar panels present unique electrical hazards that technicians should be aware of.

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