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## **Solar permitting process ensures safety, system integrity**

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The northeast is certainly known for its wild weather throughout the fall and winter, but the damage caused up and down the East Coast by Superstorm Sandy was unprecedented. In Massachusetts, the wind and rain was intense, but, for the most part, the state went unscathed by the powerful storm and the subsequent early November snowstorm. The same held true for solar PV systems deployed around the state, at least in some part due to a highly structured permitting process for solar installations.

From the perspective of the town where the system is being installed, solar installations are construction projects that require both a building permit and an electrical permit. A structural engineer for the town must certify that the roof is structurally sound for the added weight from the solar PV panels, taking into account load factors and building codes. The roof membrane also needs to be evaluated to make sure it is in good condition. Solar PV systems will last 25 years - as long as new roofs! Newer roof surfaces (15 years) are typically good candidates as well, since there may be a need to "re-roof" soon anyway. Mid-life roofs need a closer look and a recommendation from an engineer.

Wind uplift is certainly a concern in big storms, and each town has their own "miles per hour" rating based on the geographic zone in which they reside. Project managers usually work directly with mounting hardware manufacturers to ensure the hardware meets those specific requirements. Finally, a licensed electrician must perform and certify all electrical work.

In parallel, the process to connect the solar system to the local utility network, referred to as the "interconnection" process, also has very specific regulations regarding accepted solutions. The overarching theme is safety: equipment needs to be UL compliant, precautions and operating agreements are put into place, and shut-off switches need to be accessible at all times by the utility. Larger systems may require that the utility have the ability to shut off the system remotely if needed as well.

It was comforting over the past few weeks as we toured Solect's solar PV installations throughout Massachusetts and Rhode Island, to find that even in a storm the size of Sandy, and the snowstorm that followed the next week, the systems worked as designed, and continued to produce electricity for our clients. The permitting process for solar systems in Massachusetts and Rhode Island is rigorous, but for a very good reason.

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