



What They Need, When They Need It

How Apex Solar Power streamlined its PE letter process with Vector Structural Engineers

By Chris Crowell

Apex Solar Power is headquartered in tranquil Queensbury, New York, which is upstate close to Lake George and not too far from the Vermont line. Over the past two years alone, Apex has installed more than 3,000 home and business solar systems throughout the Northeast. Along the way it has learned some important lessons, among them the need to take quick action when a customer says yes. “Speed,” says Apex Chief Operating Officer Chris Hall, “is everything. An additional day to process a project is another opportunity for the customer to cancel.”

One potential delay point in the process, Hall notes, is the requirement for a letter stating that a professional engineer, licensed in the state where the installation is to take place, has reviewed the engineering

drawings for the project, and certifies that they meet the requirements for that particular city. Before installation can take place, this letter must be submitted to the appropriate building official, along with the building permit application and the plans.

For the past three years, Apex has relied on Vector Structural Engineering LLC of Draper, Utah to provide these letters. “For one thing,” says Hall, “they’re fast. They give us a 24-hour turnaround time, which is awesome. They’re also competent. We operate in 900 cities and towns in seven states, and all the jurisdictions appreciate their verbiage, layout and calculations. We never have issues with anybody questioning their work.”

Waste-free model

The system Vector uses to accomplish this task was developed in the course of work for another booming industry, telecommunications. Joe Sharp, Vector's senior project manager, says, "From the beginning we developed this around the customer's needs, and what the customer practically always needs is speed. Our client has been tasked by their client to put up a structurally engineered four-legged telecom tower. They're behind schedule, and they need a structural design tomorrow."

As Sharp describes it, the process works like this:

- The client starts by dragging and dropping all their drawings, photographs, and information onto their Vector Engineers landing page.
- Vector responds to the client as quickly as possible with questions, requests for additional information, and value engineering ideas. (Value engineering, Sharp explains, is essentially a matter of having engineers look at somebody else's plans with a fresh pair of eyes and say,

'As we see it, if you change this or that, you can save a lot of money.')

- Once those decisions are made, the project engineer assigned to that client starts putting the plans and drawings together. Internally, the process links the project information to the CAD department, who create drawing templates and detail sheets.
- When that's done, the project engineer meets with the engineer with responsible charge (i.e., who's licensed in the state where the tower is being built) to review the structural design.

"We complete the necessary engineering and drawings and the engineer that has responsible charge reviews and stamps them. The package is sent electronically to the client with a digital certified stamp on it. While all this is going on, the client's accounting department and our accounting department sign off on the pre-agreed fees and coordinate with our receivables department. For a solar project—the more complex telecom towers take a bit longer—the job is typically turned around in twelve to twenty-four hours."



Ready for the sunrise

The cell phone boom started more than a decade before the solar power boom, so Vector had had some fifteen years to fine-tune this approach before it started hearing from solar installers that needed the above-mentioned certification letters.

What Vector was hearing from these installers were not just requests for engineering services, but stories about wait times for certification letters dragging into weeks. This, as Chris Hall noted, resulted in projects being canceled because the paperwork took too long. Another problem was that the documents, whether they came quickly or slowly, often didn't meet the jurisdiction's criteria.

Meanwhile, structural engineers' fees for doing all this were edging up toward four figures. Sensing an opportunity, the Vector leadership team looked at each other and asked, "Can we do this better, faster, and cheaper?"



A question of focus

They already knew the answer, because they'd already done it. Vector adapted (and somewhat simplified) the above-described workflow and formed a solar group in 2015. Since then, the company has rapidly emerged as one of the nation's leading residential and commercial solar engineering firms. Over the past two years, the company has hired 32 new fulltime and part-time engineers to support the solar practice.

Meanwhile, up in the Northeast, Chris Hall and his colleagues at Apex Solar Power are doing what they can to keep the Vector team busy. "Over the course of my ten years in the industry," says Hall, "I've used probably 30 different PE firms, and Vector has just out-performed them in every way. Speed. Quality. Price. And helpfulness. Engineers are not always the most friendly people, but at Vector, they're personable. They're easy to deal with."

Apex Solar and Vector Structural Engineering have integrated their workflow processes to rapidly and professionally service their respective client's needs. Both companies see the demand for rapid turnaround, facilitated by this kind of coordination, as an important factor in driving the next phase of solar power growth.





We get letters . . .

Apex Solar Power isn't an isolated case. Over the past X years, Vector Structural Engineers has added Y companies to the list of solar builders and installers it serves; here's an unsolicited testimonial from one of our newer customers.

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We have had a very smooth transition from our previous engineering firm to your company. Since we made the move, the turnaround times have been very quick and consistent, and we haven't had to stress over our structural stamps—which has been a great relief. Many thanks to you and the rest of your team.

**AARON CHARRETTE, QUALITY HOME SERVICES
FRESNO, CA**

We're proud of being able to help build this fantastic young industry, and we look forward to the clean-energy future it's creating. If there's any way we can help your company do what it's doing, please let us know.

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