MEET YOUR SOLAR INSTALLER

NEW ENGLAND COMMERCIAL SOLAR SERVICES

HOLDERNESS, NEW HAMPSHIRE

George Harvey

Through the years, *Green Energy Times* has run a number of articles relating to New England Commercial Solar Services (NECSS). They started with "RMI's Solar" in *G.E.T.'s* October 2015 issue, when the company was not yet two years old (https://bit.ly/GET-RMI-solar). A more recent article was "Profile School is Now 100% Solar-Powered," in February 2022 (https://bit.ly/GET-Profile-School). The articles speak to the company's ongoing successes in the solar industry.

The 344 kW Profile School solar array in Bethlehem, NH. Pictured to the right is Ted Vansant, the owner of New England Commercial Solar Services.

NECSS offers an unusual type of service. The customers are commercial, industrial, municipal, and non-profit organizations in Maine, New Hampshire, and Vermont, but NECSS can serve them with an unusual level of personal attention, precisely because it is not the big installer that one might expect such customers to employ.

Ted Vansant, owner of NECSS, told us, "We fill a gap that is often not sought after by big national companies." That gap is the special niche NECSS has found for itself, and it has proven to be a good strategy for the company.

Solar installers tend to specialize on projects of a specific range of sizes. The really big solar installers want to do only big projects, and they can do these especially well because they can take advantage of big buying power and have large crews they can move around the country. Other installers do very nicely working with small projects, such as home-scale rooftop systems.

The Starr King solar array in Plymouth, NH. (Images courtesy of NECSS)

Vansant's business strategy is to provide for customers that are of an intermediate size, and he has worked out a way to do this. He explained this. "My model is different from the average solar installation company. I partner with other installers. So, when there is an opportunity, I find the partner I want to work with. Then I design and manage the system to completion." It is almost like having a business that can be a specific size, according to the specific need.

The largest project NECSS has undertaken so far has been a 4-megawatt (MW) solar installation project on a landfill at Laconia, New Hampshire. But Vansant said, "The sweet spot is under 1-MW." That size is good for a lot of schools and municipalities, and it is a good size for many businesses.

Vansant's business model allows him to deal with the customer personally, in a way that a much larger installer would not be able to do. From the customer's perspective, this means that a project is guided by an individual who is personally interested in how it proceeds and who deals with the client's questions and concerns in an attentive and engaged manner.

The strategy also means that NECSS can employ the best people for the specific jb. Two companies he often partners with are KW Management, in Nashua,

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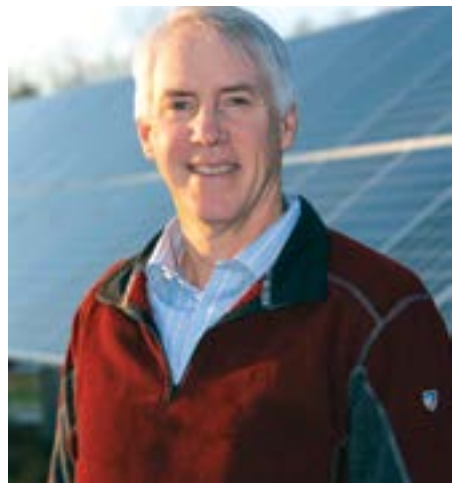

Introducing Iron Edison's Amazing New UL Listed Affordable Lithium Iron Battery

George Harvey

We recently received a press release from Iron Edison introducing us to their new battery, the REVOLT4 lithium battery for residential energy storage.

For those who do not know, Iron Edison is very much its own battery company, doing its own thing. For example, Iron Edison sells nickel-iron batteries, which were invented by Thomas Edison. The market for them is not big, but they can do things that no other battery does. We are told there are ninety-year-old batteries based on nickel-iron chemistry still in use.

Iron Edison is not stuck in history, however. And so, we can take a look at its most recent battery technology. Its REVolt batteries, using LFP (LiFePO4) technology, have been around for a while. And now the REVOLT4 is here.

Readers of *Green Energy Times* tend to be aware of some facts about lithium batteries: They are more expensive than other batteries initially, but because they can be discharged deeper and have much longer life, they are less costly over a long period. Lithium batteries have other advantages also, as they are far easier to maintain than most older types.

The new REVOLT4 battery takes the REVolt LFP battery to another level altogether. They have chemistry that is pretty much the same, but they are very different in many ways. One thing changed is a reduction in prices. Where a 5-kWh REVolt battery costs $4,195, the newer 5.12-kWh REVOLT4 battery has an initial cost of $3,395.

But please do not think the reduced price is the only difference. The new REVOLT4 has important improvements. While comparing the REVolt batteries to older types might be like comparing apples to oranges, comparing the REVolt batteries to the new REVOLT4 is a bit like comparing apples to apple pie, except that there are ingredients in the apple pie that you can't just pick up in the market yourself.

A lineup of four new Iron Edison REVOLT4 batteries. (Courtesy image: Iron Edison)

One thing about the new REVOLT4 battery is that it is UL1973 listed. That has some rather important implications about permitting and approvals, making the whole process much easier.

The differences go rather far beyond that, however. Brandon Williams of Iron Edison shared a few observations with us. To start with, he said, "The REVOLT4 is by far the most advanced battery we have ever sold. It sounds cliché to write that, but it's true. The UL listing is just a stamp on the outside of the box, but it truly represents a lot of work."

He explained, "The UL testing is a rigorous review process. They look at the cells, the pack, the enclosure, wiring, as well as the BMS [battery management system] and software running the battery. There are performance tests and destructive tests designed to show the battery performs at expected levels and is still safe if pushed outside design limits. There are also onsite visits from the UL team to the production line to confirm the facility is operating at clean room and technical standards." Clearly, this is not trivial.

The REVOLT4 battery has a lot built into it that a person might want for the earlier systems. It is a sealed, maintenance-free unit, with integrated control systems that prevent such problems as over-charging and over-discharging. It also has an integrated readily-accessible DC disconnect for NEC code compliance.

The battery has a Wi-Fi system built in allowing it to be monitored remotely using the internet. The owner can see charge and discharge amperage in real time, keep an eye on state of charge, and even control the system to stop a discharge cycle or set a charge schedule. And all these things can be done from any iOS or Android device.

Not only can the batteries be in communication with the owner, they can communicate with each other, so as many as fourteen of them can be combined into a single group, and the groups can be stacked to capacities of over 200 kWh.

Iron Edison points out that LiFePO4 is the safest of any lithium technology. The danger of such things as thermal runaway is not an issue with it, as it is with lithium cobalt oxide batteries. And with the addition of its sophisticated management system, the REVOLT4 is a product that can be relied on.

The REVOLT4 batteries are expected to be good for a life of approximately 20 years. During that time, it will operate at a lifetime cost per kilowatt-hour well below that of lead-acid and other older batteries. This is because older types of batteries would need to be replaced multiple times during the 20 years.

The Iron Edison Battery Company is based in Denver, Colorado. Its web site is www.ironedison.com. ♻

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NH and Barrington Power, in Barrington, NH. NECSS itself is in Holderness, NH. Vansant's partners are installers with whom he has built relationships based on experience and trust.

While this model works well for Vansant, it also works well for the other solar companies that he works with. But an overarching point is that it is better for the NECSS customers. Part of the customer benefit is an aspect worth reiterating. Because of his unusual business model, Vansant can manage the project himself. This implies a personal level of attention on his part, applied to the specifics of each project.

The field of solar power is changing because the technology is improving, and this also requires attention. This is especially true of storage. Vansant said he plans to do more work on storage projects in the future. But he also plans for a lot more solar installations.

NECSS has grown over the years, and the Covid-19 pandemic did not slow it down. But even with all the demands of business, Ted Vansant has also been active for the solar industry outside of his own business. He has been Chair of the Board of Directors for Clean Energy NH, the state's leading clean energy advocate and educator. He expresses hope for the future of clean energy in New Hampshire, saying that better laws would benefit the state, particularly when it comes to billing by time of use and net metering. And, in fact, he writes about clean energy and was the author of an article that appeared in *Green Energy Times* in October 2017, "Hollis, NH Public Schools – Solar on the Roof, Solar in the Classroom" (https://bit.ly/GET-Hollis-PS).

The New England Commercial Solar Services website is www.necsolarservices.com. ♻