



July 28th, 2011

Re: Innovation Letter of Support

Dear AASHE STARS Program Staff,

This letter is to affirm that AllCell Technologies in partnership with the Illinois Institute of Technology (IIT) has implemented a sustainable electricity producing site as an innovation credit in STARS.

The Grid-Tied solar electric array was constructed using cutting-edge technologies in the areas of solar energy harvesting, safe and compact energy storage and cloud based data collection/monitoring. Key technologies include:

- Holographic film enhanced photovoltaic panels for increased energy production
- Phase Change Material (PCM) for cooling high energy density Li-Ion batteries
- Commercial off the shelf (COTS) micro-inverters for compact, yet efficient, grid-tied power inverters

SunPhocus Technologies HoloSun™ is a unique and patented glass-coating film which that maximizes electricity production from solar PV cells by concentrating sunlight onto the cells. This passive tracking makes it an ideal candidate to electricity generation. As the sun's rays strike the HoloSun™ film, a portion of the solar energy is diverted. Rather than passing through the glass, the diverted solar energy is instead channeled through the pane of glass itself (a process known as Total Internal Reflection). Using the glass as a light-guide, the diverted light rays are delivered to PV cells strategically placed in low-value or unobtrusive locations in the glass.

AllCell Technologies designs and develops thermal management solutions and manufactures lithium-ion battery. Our focus on thermal management differentiates our high power lithium-ion battery systems from other battery systems. Our patented phase change material (PCM) surrounds each lithium-ion cell to absorb and conduct heat away from the battery, effectively doubling the life of the cells and preventing a fire or explosion. We offer the only passive thermal management system (i.e. no pumps, piping, or controls required), which provides for a simple, cost effective solution.

Solar systems are typically designed using large inverters that require several solar panels to be connected to each in such a way that decreases performance and reliability. The use of micro-inverters allows each panel to produce power that is directly fed into the grid. Micro-inverters are compact, mounted directly under the solar panel and have an efficiency rating of 95%. The micro-inverters have 24/7 monitoring of solar production data that is communicated to a cloud based server over a WiFi connection. In the event of internet down time the system is capable of storing data until such time the network connection is restored.

As a result of utilizing the latest technologies in all aspects of solar collection, battery storage, grid conversion and cloud based communication, we at AllCell Technologies feel that the project qualifies as an innovation credit in IIT's STARS assessment.

Sincerely,

A handwritten signature in black ink that reads "Said Al-Hallaj". The signature is fluid and cursive, with the first name "Said" and last name "Al-Hallaj" clearly legible.

Said Al-Hallaj
Chairman/CEO
AllCell Technologies
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