Technical Assistance Request

Brief Description of Product:

The SEMS products significantly increases the amount of solar energy collected (regardless of the Solar anel employed) by horizontal diffraction reflection, or disflection (U.S. Patent pending ASN: 16/179,918). Disflection is a technique employed to enhance illumination of photovoltaic solar panels. Real Time Tracking offers tracking in real time without any pre-programming. Real time tracking (210° of east/ west trackin) guides the trackers to the best point of irradiance for maximum energy production. When these two technologies are combined (Reflectrac) it results in significant increase of sun hours exposure on the solar panels per day, this translates to extending the solar day from 3-5 to 8-10. James Loven has received a U.S patent on the concept of reflection and combining tracking (patent #: US 9,548,698 B2,). These two technologies translate to 40% more capture of energy and 20-25% more than other tracking systems. SEMS has created a product called the RST3000.

Key Design Features of RST3000:

- Horizontal diffraction reflection or disflection.
- Heavy duty limit switch assemblies designed specifically for solar trackers.
- Real Time Sensor.
- Self-hobbing worm gear.
- Shock resistant and self-adjusting A.C. worm drive.
- Through bolt racking system to prevent module extraction by wind.
- Electronic controls with embedded control(under development) for supervisory functions.
- Operators autonomous.
- Ballasted foundation system.

Testing and Validation

- Evaluate and analysis the mechanical design, drive system, and control systems of RST3000 for basic integrity and long term durability.
    - Mechanical Design Analysis of Reflective Solar Tracker structure which includes dynamic (i.e wind/snow) loads and shock.
    - Mechanical load limit test
        - Devise a test method of loading the Reflective Solar Tracker structure to determine reaction and yield limits of the structural members

- Provide testing and validation on energy claims.

Provide for installation and operation of the RST3000 in regions or environments of the United States other than the Northeast for the purpose of determining the energy production performance of the RST3000. The method of data collection, analysis and conclusions should be devised by the partner. Information should be shared with other partner participants.

Business Development

- Network partners who can help guide the development of SEMS's according to our product and market goals. This should include:
- Projection of Sales in the commercial solar market.
- Development of marketing materials and techniques for commercial market
- Detailed cost/benefit analysis for the RST3000 for scale ranging 1Mw to 100Mw installation
- Evaluate manufacturing costs as a function of volume and how that will impact pricing for the commercial market.

Funding & Investment

A partner who can evaluate the capital needs of SEMS's to sustain the business development of the company for 2 to 5 years as the product enters the market.

SEMS is interested in assistance regards of the outcome of the American Made Solar Prize.
If assistance can be provided please contact:

James Loven
Email: Jloven@reflectivesolartracker.com
Phone: (570)209-6784
Or
Robert Loven
Email:rloven@reflectivesolartracker.com
Phone:9570)507-1188
Website: https://www.reflectivesolartracker.com/