Virtus Solis Technologies, Inc.
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Troy, Michigan 48085 USA

To: Michigan Public Service Commission

From: John Bucknell, CEO
Virtus Solis Technologies, Inc.

Re: Comments on Sections 22 through 49 of Act 235

Date: February 22, 2024

INTRODUCTION

In Case No. U-21568, on February 8, 2024, the Michigan Public Service Commission (MPSC) solicited comments on seven questions pertaining to Sections 22-49 of Act 235, with a submission deadline of March 8, 2024. This memorandum will provide comments pertaining to the following questions:

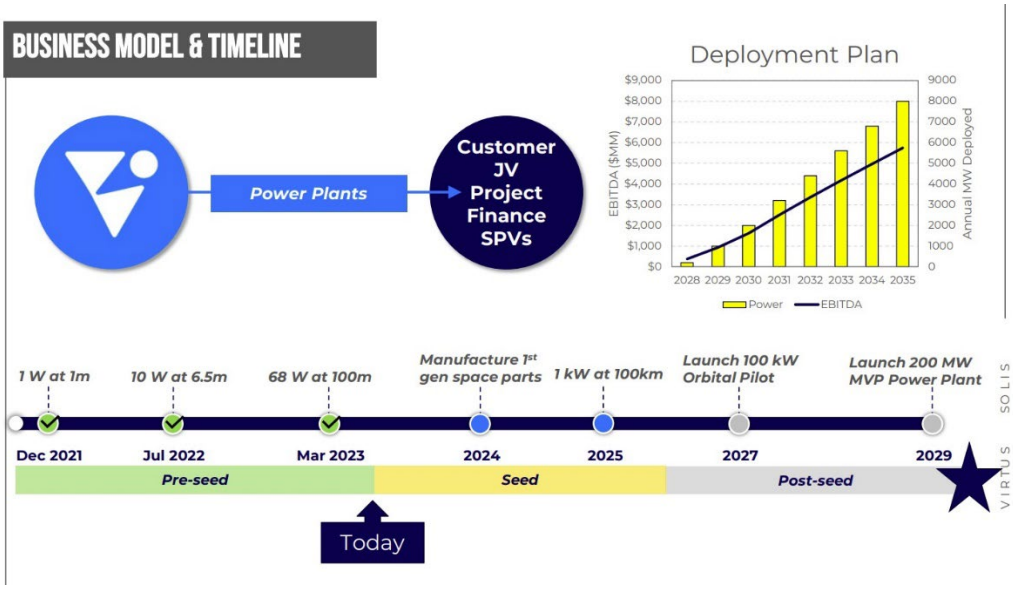
1. What, if any, changes are needed to the Michigan Renewable Energy Certification System to facilitate compliance with Act 235?
6. As the amount of renewable energy on the power system increases, certain energy-related attributes may have greater value to the power system as a whole. Some, but not all, renewable energy resources can continue to offer these attributes, which include dispatchability, voltage support, and a hedge against disruptions or price increases in other generation inputs. Consistent with the continuing requirements under MCL 460.6t(8)(a), which require the Commission to consider diversity of generation supply when evaluating a utility's resource mix, what changes, if any, are necessary to appropriately value these attributes and characteristics?
7. Finally, the Commission invites additional comments on any other anticipated issues regarding the requirements of Sections 22 through 49 of Act 235 not specified above.

BACKGROUND

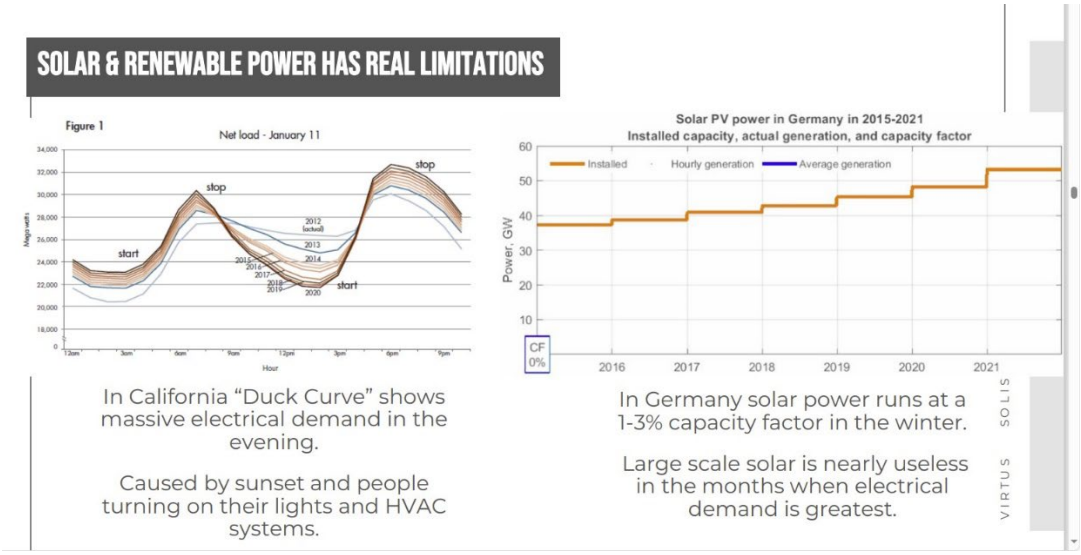
Virtus Solis Technologies, Inc. (VS) is a 4-year-old start-up company based in Troy, Michigan, whose purpose is to develop wireless power transmission (WPT) for the commercialization of Space Based Solar Power (SBSP). While the concept of SBSP is over a century old, engineering designs were first produced in 1968 and since then numerous architectures have been advanced. With SpaceX's successful demonstration of reusable rockets beginning in 2018, the biggest economic hurdle to Space Based Solar Power is resolving, with launch costs dropping from $50,000 per kilogram to lower than $50 per kilogram, pending the success of SpaceX's Starship as a reusable rocket system.

During 2023, VS successfully demonstrated its 3rd generation of WPT technology, establishing the state-of-the art for a 10 Ghz microwave formed and controlled by software systems. A long-distance, i.e., 60-mile, terrestrial demonstration is planned for 2025, with an on-orbit demonstration planned for 2027.

The Bottom Line: Space Based Solar Power is NOW technically and economically feasible. And VS has plans for commercial operations by the end of the decade.

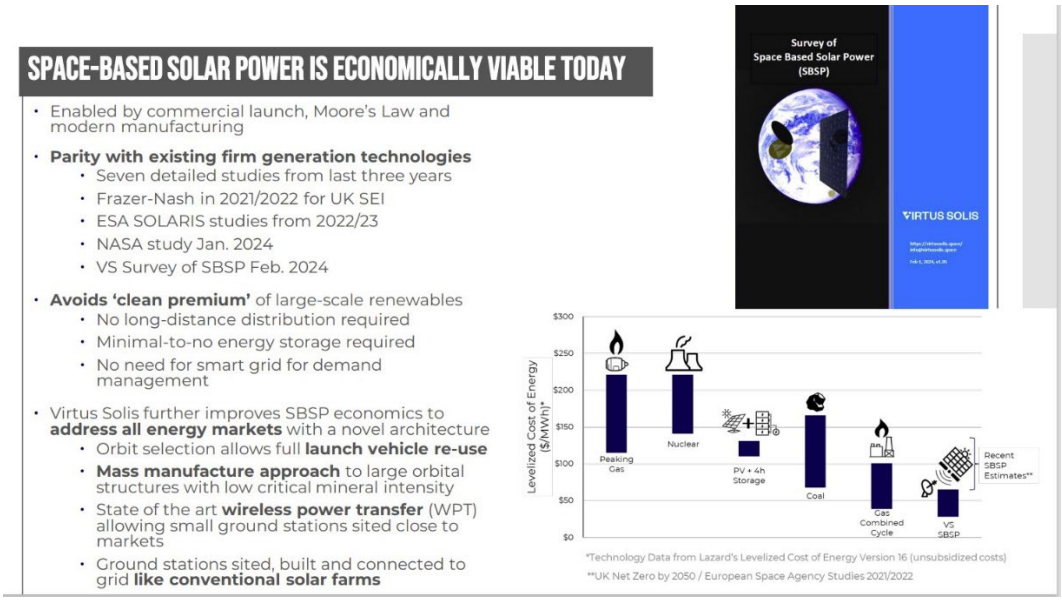


It is important to note that SBSP is an emission-free, baseload, scalable and dispatchable energy source, solving the intermittency problems of terrestrial solar and wind technologies. As such, SBSP is both a generation and distribution platform and is capable of delivering power simultaneously and nearly instantaneously to multiple receiving antennae globally, thereby reducing the need for over-building storage and transmission systems for local grids.



Further, as SBSP scales, the costs are dramatically reduced with an expected price point of $30 per megawatt delivered. The ultimate affordability of SBSP means that it will be an economic lever to

achieving the energy transition away from fossil fuels and therefore represents a market-based solution for climate change.



COMMENTS

1. *Definitions*:
   Though the invitation in Case No. U-21568 from the MPSC to submit comments focused on Sections 22 through 49, VS asks that explicit references to Space Based Solar Power as a form of clean and renewable energy for Sections 3 and 11 be incorporated in rules adopted by the Commission. Act No. 235 is currently silent on SBSP, though Solar and Solar Thermal Energy are listed in Section 11 (g)(ii) as renewable energy resources.

   Further, in Section 11 (i), in the definition of "renewable energy system", VS asks for a rule declaring SBSP as a system of on-orbit satellites beaming energy to ground based receiving antennae for feeding local transmission facilities be listed.

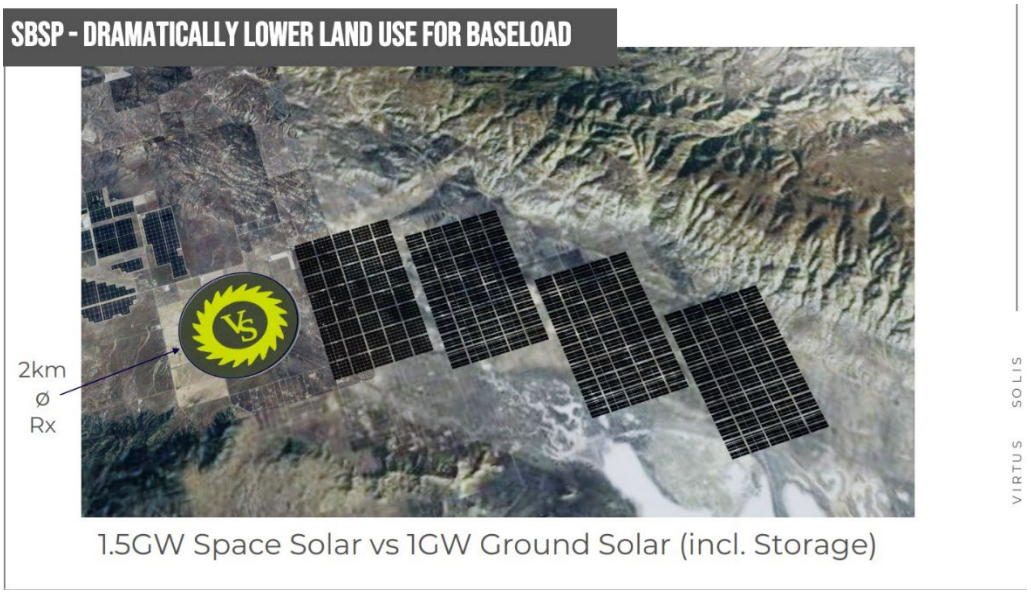
   N.B. VS submits that SBSP addresses all of the purposes of Act No. 235 delineated in Section 1:

   - SBSP will DIVERSIFY the resources used to reliably meet Michigan energy needs through its orbital architecture;
   - SBSP will PROVIDE greater ENERGY SECURITY as a new and robust baseload power source;
   - As a private company focused on SBSP commercialization, VS will encourage private investment in renewable energy, including component manufacturing in Michigan;
   - VS will comply with all health, environmental, safety and national security as defined in federal regulations;
   - And as a microwave transmission technology roughly equivalent to weather radar, SBSP will resiliently perform in extreme weather.

2. *Location of SBSP as a renewable energy system eligible for renewable energy credits*:
VS asks that Section 29 (1) be interpreted in a rule that explicitly recognizes the on-orbit location of SBSP as a key feature of its ability to provide uninterrupted baseload energy to receiving antennae that could be located in Michigan or in adjacent locations feeding Michigan electrical consumers.

3. *Michigan incentive renewal energy credits*:
VS asks relative to Section 39 that a rule be adopted making it clear in (1) that SBSP systems providing electricity to Michigan consumers are qualified for renewable energy credits for each megawatt hour provided from such systems and in (2)(b) that SBSP would similarly qualify for the 1/5 renewable energy credit for energy provided at peak demand times as determined by the Commission.

4. *With respect to Question 6 above*:
VS submits that the unique qualities of SBSP as a dispatchable, firm, always on, 24/7/365 energy source must be properly understood and valued for its ability to complement existing sources of intermittent renewable energy. By placing receiving antennae adjacent to existing solar and wind fields, and tying into already built transmission facilities, SBSP optimizes the use of existing infrastructures, minimizes the need and costs for over-building local grids with unnecessary storage and transmission lines, and dramatically reduces land use. Additionally, because costs are reduced as SBSP scales, the opportunity to provide economic terms that assure affordable pricing to consumers—residential, commercial and industrial—is realistic.



5. With respect to Question 7:
Western economies have prospered through the past 250 years because of cheap energy, provided by fossil fuels. That outcome has also had the attendant consequence of climate change which threatens the health of planet Earth and all who inhabit her. At the same time there remain nearly 1 billion people who lack any access to electricity. SBSP is the best solution for providing affordable electricity for 1st, 2nd and 3rd world nations and peoples, as it will be a

global resource which will permit decent lifestyles as we all transition away from fossil fuels with energy priced at $30 per megawatt. No other baseload energy source holds the promise of such an affordable globally available opportunity!

To reiterated, VS submits that SBSP addresses all of the purposes of Act No. 235 delineated in Section 1:

- SBSP will DIVERSIFY the resources used to reliably meet Michigan energy needs through its orbital architecture;
- SBSP will PROVIDE greater ENERGY SECURITY as a new and robust baseload power source;
- As a private company focused on SBSP commercialization, VS will encourage private investment in renewable energy, including component manufacturing in Michigan;
- VS will comply with all health, environmental, safety and national security as defined in federal regulations;
- And as a microwave transmission technology roughly equivalent to weather radar, SBSP will resiliently perform in extreme weather.

Thank you for the opportunity to submit comments for your consideration.

Signed,

John Bucknell

John Bucknell
CEO, Virtus Solis Technologies