UNITED STATES OF AMERICA
INTERNAL REVENUE SERVICE
U.S. DEPARTMENT OF THE TREASURY

SECTION 45V CREDIT FOR PRODUCTION OF CLEAN HYDROGEN;
SECTION 48(a)(15) ELECTION TO TREAT CLEAN HYDROGEN PRODUCTION FACILITIES AS ENERGY PROPERTY
(PROPOSED RULE)
IRS-2023-0066

February 26, 2024

**COMMENTS OF**
**PALM SPRINGS CLEAN ENERGY, LLC**

Palm Springs Clean Energy, LLC ("PSCE") provides these comments in response to the December 26, 2023 Notice of Proposed Rulemaking ("NOPR") issued by the Internal Revenue Service and the U.S. Department of the Treasury, *Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property)*, (IRS-2023-0066) ("Proposed Rule").

**PSCE's Green Hydrogen Approach**

PSCE is a recently formed technology company which designed and will be deploying an innovative, low cost flexible and efficient approach to green hydrogen production. The PSCE engineering team set out to maximize standardization and simplification to produce green hydrogen powered by dedicated solar arrays and storage, that is turnkey for prospective customers and owner/operators. The PSCE configuration is optimized and modular, fractionalized and expandable, and autonomous and independent. Designed for deployment behind-the-meter, PSCE uniquely calls forth numerous efficiencies and cost reducing attributes by avoiding challenges and the limitations of DC/AC/DC coupling and interface including, among other benefits,

practically eliminating the risk of or losses from curtailment. In addition, PSCE solves for solar and load variability by using graphene supercapacitors (rather than batteries) to charge during the day and maintain electrolyzer production operations 24/7; coupled with hydrogen storage to meet variable load offtake requirements.

The PSCE pilot demonstration project will produce 6460 kg/day nameplate capacity of green hydrogen, with 48 MWdc installed solar, 15 MW of electrolyzer nameplate capacity, a 40 MWhr storage system and greater than 3 days of hydrogen storage; and do so with a production cost consistent with the current assumptions underpinning Section 45V. More specifically, the PSCE design, with the Section 45V production tax credit, will position clean hydrogen to compete with hydrogen produced by steam methane reforming. In a nutshell, the system provides an efficient and cost-effective option for prospective thermal load customers and utilities to meet greenhouse gas reduction needs and goals, all consistently with the current 45V Proposed Rule.

**The PSCE Design and Configuration Advance the Objectives of the Inflation Reduction Act of 2022 ("IRA")**

Numerous characteristics of the PSCE design and approach bear directly on matters addressed in the Proposed Rule.

- The autonomous BTM design ensures that clean solar power is the inexorable energy feedstock for hydrogen production. And as an integral dedicated component of the standardized modular design, the renewable electricity used to power the electrolyzers ipso facto is *incremental* as the term is used in the Proposed Rule.

- Because the solar electricity is generated and used within the same hydrogen production facility, *deliverability* is a certainty.
- Likewise, the design provides that dedicated electrolyzers exclusively operate on power generated by the solar field(s), either in real time or during supercapacitor discharge of stored solar energy. Accordingly, *time matching* considerations are nullified and inapplicable.

The net effect is that the PSCE engineering team developed and is deploying an innovative, first-of-its-kind, green hydrogen solution that is standardized, replicable and turnkey. By functionally satisfying or otherwise rendering foundational clean hydrogen production qualifiers as irrelevant, PSCE expresses the availability of a scalable solution that largely eliminates the life cycle emissions considerations and/or uncertainty, as expressed in the Proposed Rule.

PSCE is aware that numerous commenters will be asserting that requirements to ensure environmental efficacy and integrity for hydrogen production backed by environmental attribute certificates risks creating obstacles to scaleup, or stifling development of a domestic clean hydrogen production industry. The PSCE configuration and design demonstrate that innovations spurred by the IRA are already resolving life cycle emissions verification challenges and will more readily and rapidly catalyze and scale up a clean hydrogen economy that meets stringent environmental criteria. Moreover, PSCE's ability to efficiently deploy standardized multiple geographically dispersed green hydrogen production facilities, without the use of grid electricity or energy attribute certificates ("EACs"), provides support for finalizing the Proposed Rule with rigorous clean production qualifiers to benefit from the section 45V production tax credit.

**Conclusion**

PSCE recognizes that in many instances, quantifying life cycle emissions from electricity to produce hydrogen is fraught with difficulty. But we respectfully assert that innovative green hydrogen production solutions are being brought to bear in the marketplace which should provide some indication that these questions are being and will be resolved in the near term. PSCE further suggests that the equities support maintaining and applying the three pillars of incrementality, deliverability and time matching with the knowledge that capital is presently being deployed in a manner that resolves perceived challenges associated with these environmental integrity criteria. To do otherwise risks disadvantaging and disincentivizing those that would risk capital deploying innovative solutions to nurture and scaleup a domestic clean hydrogen production industry.

Respectfully submitted,

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