INFINIUM™

February 26, 2024

Submitted via www.regulations.gov

Internal Revenue Service
CC:PA:LPD:PR (REG-117631-23)
Room 5203
PO Box 7604
Ben Franklin Station
Washington, DC 20044

RE: REG-117631-23

Infinium Operations, LLC ("Infinium") submits these comments in response to the Notice of Proposed Rulemaking to Code section 45V, the Clean Hydrogen Production Tax Credit, as enacted, extended and amended by the law known as the Inflation Reduction Act of 2022 (IRA).[1]

Headquartered in Sacramento, California, Infinium's mission is to decarbonize the transportation sector through the production of eFuels, an ultra-low carbon fuel alternative to petroleum derived transportation fuels. Infinium eFuels are drop-in replacements for use in planes, ships and motor vehicles without the need for costly infrastructure changes. Infinium's proprietary technology utilizes carbon dioxide (CO_2) that would otherwise be emitted, and green hydrogen to produce transportation fuels (e.g. eSAF (Sustainable Aviation Fuel), eDiesel and eNaphtha), with substantial reductions in lifecycle GHG emissions as compared to fossil-based alternatives.

Infinium's strategic and financial investors, include affiliates of Amazon, NextEra Energy, Mitsubishi Heavy Industries, SK Ventures, and AP Ventures- leading companies that are interested in both reducing their carbon footprints and innovating solutions to current environmental issues.

Infinium operates the first commercial drop-in eFuel facility in the world from its plant in Corpus Christi, Texas which will provide eFuels to Amazon's middle mile trucking fleet. Infinium announced a second commercial eFuel facility in West Texas called Project Roadrunner, which will be the largest in the world when it begins production in 2026. Project Roadrunner will produce primarily Infinium eSAF and smaller volumes of eDiesel and eNaphtha. Anchor partners include American Airlines as a sustainable aviation fuel off-taker and Breakthrough Energy Catalyst providing project equity investment.

The comments contained in this letter relate to the following requests in REG-117631-23 and its request for comments with respect to Code section 45V:

1. Calculation of 45V credit for the taxable year
2. Grandfathering temporal matching

[1] Public Law 117-169, 136 Stat. 1818 (August 16, 2022).

3. Approach to addressing incrementality from existing clean generators
4. Transparency in the 45VH2-GREET Model

Specific comments on these four areas are below.

A. Calculation of 45V credit for the taxable year

In part V.A.1 of the Explanation of Provisions, it states the lifecycle GHG emissions rate determination should be made for the taxable years' total hydrogen production at a hydrogen production facility. The value of the 45V credit is then determined by the product of the emissions rate and quantity of qualified clean hydrogen produced.

The implementation of a temporal requirement means that the emissions rate could vary from temporal period to period. This arises from the potential variability in the amount of regional grid and renewable energy claimed per period. When annual temporal matching is in place, a single emissions rate would reflect all the hydrogen produced during a taxable year. While in the case of hourly temporal matching, the emissions rate needs to be calculated for each period that span the taxable year (e.g. 8,760 times in the case of hourly).

We interpret the proposed regulations to mean the 45V credit per taxable year should be determined from summing the applicable credit amounts (per section 45V(b) and 45V(c)) obtained from the product of the emissions rate and the associated amount of qualified clean hydrogen produced for each and all temporal period(s) covering the taxable year. This treatment is consistent with the text of the IRA law, which states that the 45V credit for any taxable year is based on the product of the quantity of qualified clean hydrogen produced and an amount associated with emissions rate of the process. We do not believe using an annual average of hourly emission rates to calculate the 45V credit is correct or consistent with the IRA law. In such a case, a qualified clean hydrogen facility could potentially receive a reduced or no 45V credit at all, even though it produced qualified clean hydrogen during the year.

We request that IRS clarify our interpretation in consideration of the effect of temporal matching on the emissions rate.

B. Grandfathering temporal matching

Section 1.4V-4(d)(3)(ii)(A) proposes temporal matching rules that transition from annual to hourly that will severely limit the effectiveness of clean hydrogen as a tool to reach the Administration's long-term deep decarbonization goals.

Implementing the proposed switch in temporal matching for a project involves much more than simply switching from annual energy attribute certificates ("EACs") to hourly EACs. It requires reconfiguring every aspect of how a hydrogen production facility operates, the power contracting strategy and hence underlying financial bedrock of the project. The differences are so

foundational to the design of the project that it is not possible to switch from one regime to another after a project has commenced operations.

Furthermore, there is also significant uncertainty over whether hourly matching will be implementable nationwide by the 2028 deadline, as detailed in the Explanation of Provisions. It was specifically noted that, "Hourly tracking systems for EACs are not yet broadly available across the country and will take some time to develop".

To address these concerns, we request that grandfathering of annual matching is provided for the full 10-year 45V production tax credit term for projects with start of construction before January 1, 2028. In addition, a provision should be adopted to extend the 2028 transition if hourly tracking systems are not available nationwide.

C. Comments on approach to addressing incrementality from existing clean generators

The proposed regulation seeks comments on alternative approaches in which an EAC may be deemed to satisfy the incrementality requirement, described in part V.C.2.a.i (avoided retirements) and V.C.2.a.ii (periods of curtailment or negative pricing) of the Explanation of Provisions.

We support the decision to include a pathway to deem a percentage of hourly generation from existing minimal-emitting electricity generators as satisfying the incrementality requirement. For example, periods of curtailment especially at granular temporal periods, are difficult to anticipate and identify. It can also be challenging and burdensome to evaluate and account for occurrences arising from avoided retirements or the underlying risk thereof. A simplified allowance method, as proposed, provides a more readily viable, practical and implementable approach.

We support and recommend that an upper bound of 10% allowance be provided from existing minimal emitting electricity generators. This higher allowable percentage is justified based on future expected curtailment rates, which have been generally rising over time as the penetration of renewable energy generation increases.[2]

D. Transparency in the 45VH2-GREET Model

We appreciate that the IRS, in consultation with Department of Energy ("DOE"), put together a 45VH2-GREET model ("Model") in Excel format to aid in the calculation of the emissions rate for purposes of the Section 45V credit. As part of publishing the Model, DOE provided a written user manual that provides a general description on the methodology and instructions on how to operate the Model. However, the manual does not include details and specifics of the

[2] K. Novan and Y. Wang, "Estimates of the marginal curtailment rates for solar and wind generation", J Env Econ Man, **124** (2024).

calculation, including emission factors, formulas, etc. Furthermore, the Model is password protected restricting all user access to calculation of the emissions rate. The user only has limited visibility into user provided inputs to the Model and the value of the emissions rate calculated by the Model.

We request that the DOE provide an unlocked (without password protection) version of the Model. This will provide users with greater transparency into the details of the emissions rate calculation, the operation of the Model and the ability to check and verify proper function of the Model.

Thank you for considering our comments.

Sincerely yours,

David Zaziski, Ph.D.
Vice President, Policy & Government Affairs