Alternative Fuels & Chemicals Coalition

Advocating for Public Policies to Promote the Development & Production of Alternative Fuels, Renewable Chemicals, Biobased Products, and Sustainable Aviation Fuels

February 26, 2024

VIA ELECTRONIC FILING (www.regulations.gov) (REG-117631-23)

Douglas W. O'Donnell
Deputy Commissioner for Services and Enforcement
CC:PA: LPD:PR (REG–117631-23)
Room 5203
Internal Revenue Service
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property, Notice of Proposed Rulemaking and Notice of Public Hearing, 88 Fed. Reg. 89,220 (Dec. 26, 2023)

Dear Mr. O'Donnell:

The Alternative Fuels and Chemical Coalition ("AFCC") represents the alternative fuels, renewable chemicals, biobased products, and sustainable aviation fuels ("SAF") industries. Each of these industries rely on technologies to capture and utilize methane—a highly potent greenhouse gas ("GHG")—that would otherwise have been emitted into the atmosphere. We appreciate the opportunity to submit these comments on the proposed rule entitled "Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property," published at 88 Fed. Reg. 89,220 (referred to as "45V Proposed Rule"). The alternative fuels and chemical industry has several concerns with respect to the 45V Proposed Rule as it relates to this industry.

AFCC is a collaborative government affairs effort organized by the Kilpatrick Townsend & Stockton law firm and American Diversified Energy. AFCC was created to address policy and advocacy gaps at the federal and state levels with respect to renewable chemicals, bioplastics/biomaterials, cell-cultured food ingredients, alternative proteins, single cell protein for food and feed, enzymes, alternative fuels, biobased products and sustainable aviation fuels sectors. AFCC member companies work on food and fiber supply chain security and sustainability, renewable chemicals, industrial biotechnology, bioplastics and biomaterials, and biofuels.

A Collaborative Government Affairs Effort
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1. *GREET Model and Determining Emissions Rates:* AFCC appreciates the work that Argonne National Laboratories has done to provide a GREET model targeted for the 45V tax credit. The alternative fuels and chemical industry has long supported use of GREET as a transparent and well-respected lifecycle model that follows the science. AFCC provides the following comments on the 45VH2-GREET model as issued in conjunction with the 45V Proposed Rule.

    a. The 45VH2-GREET model must include additional pathways for gasification of wastewater sludge and municipal solid waste ("MSW"). Gasification of these feedstocks, like corn stover and logging residues, would take biomass with no residual value and create syngas to be further refined into products like methanol, ammonia and RNG. These feedstocks do not contribute to additional ecological feedstock footprint. Therefore, gasification of wastewater sludge and MSW should be considered an environmentally sound and the best practice' for energy recycling.

    We understand that various additional modifications that would be necessary to better reflect the emissions profiles of these pathways. For example, landfill MSW as feedstock used in a gasifier would otherwise emit CH_4 and other non-CO_2 emissions under counterfactual scenario. Therefore, this feedstock should be considered for landfill avoidance credits with a negative impact on the CI score. This counterfactual assumption is comparable with the assumption for landfill gas that any gas not being consumed by the reformer as being flared.

    b. The one identified gasification pathway is gasification from corn stover and logging residue with no significant market value with CCS. The term logging residue is vague and excludes biomass allowed under USDA and USFS guidelines. AFCC asks that this pathway be changed to "forest residues," allowing for the use of biomass from forest stewardship processes that produce residues from pre-commercial thinning, forest fuel reduction methods (like thinning and logging), and salvage of dead and dying trees, which are both small and large in diameter. In addition, AFCC asks that the definition specifically include the following types of woody biomass feedstocks: slash; salvage logs; and sawmill residues.

    c. In addition, agricultural waste biomass from sources other than corn stover, like waste from almond farms, should be included as a feedstock in a gasification pathway.

2. *Relying on the Most Recent 45H2-GREET Model as Modified from Time to Time Discourages Investment in Hydrogen Production Technologies:* Proposed Section 1.45V-4(a) would provide that the amount of the Section 45V credit is to be determined each year.[1] Biogas producers typically enter into long-term supply contracts. Some certainty in the emissions rate findings would support these

[1] 88 Fed. Reg. at 89,224-89,225.

investments, rather than potentially creating uncertainty that a facility may no longer qualify or drop in a tier in the tax credit amount. This uncertainty in the credit rate provides a significant disincentive to investments in hydrogen production, because the investor cannot have any amount of certainty regarding the return to be derived from the investment.

AFCC urges Treasury to adopt a final rule for a facility beginning construction after the December 26, 2023 that permits a taxpayer to rely on the most recent 45VH2-GREET Model fixed at the beginning of construction of the qualified hydrogen facility. For facilities beginning construction on or before December 26, 2023, the applicable 45VH2-GREET Model would the model published contemporaneously with the Notice of Proposed Rulemaking in connection with the Section 45V Proposed Rules.

If the taxpayer makes alterations to the qualified hydrogen facility after it is placed in service, we recognize that it might be appropriate to use the most recent 45VH2-GREET Model at the beginning of construction of the alterations. In addition, AFCC urges Treasury to permit a taxpayer to elect to use a subsequent iteration of the 45VH2-GREET Model as a "successor model" in lieu of the most recent 45VH2-GREET Model at the beginning of construction of the facility or alteration to the facility, as applicable.

3. *The Provisional Emissions Rate ("PER") Process Should be Accessible to New Pathways and Technologies and Streamlined to Promote Efficiency While Adhering to the Purpose of Section 45V.* AFCC appreciates that it is impossible to identify and model up front all hydrogen production pathways and applauds the introduction of the provisional emissions rate process.

   a. Requiring a front-end engineering design ("FEED") study is a significant and often cost-prohibitive impediment to requesting a PER. A FEED study typically costs in the tens of millions of dollars and are the final step before a final investment decision. In lieu of providing a FEED study as a condition of a PER request, AFCC urges the following alternatives.

      The taxpayer submits the following documentation to reflect the state of development of the project:

      - A FEL-2 level engineering study;
      - A detailed financial model; and
      - A life-cycle analysis prepared by a qualified party.[2]

      AFCC believes that this documentation would accomplish the objective of demonstrating project viability and providing an efficient process for DOE. This documentation still represents a significant amount of investment by

[2] For a facility that is operational, the life-cycle analysis would be based on actual performance data from the facility.

the taxpayer, but the information would better inform a decision by DOE. Also, because the term "FEED study" means different things to different parties, these requirements would provide better clarity to taxpayers.

b. In any event, AFCC urges Treasury and DOE as part of the PER application process to permit taxpayers to submit a life cycle analysis consistent with the principles of the 45VH2-GREET model subject to the review and comment of DOE. This information would relieve the burden and cost to DOE and provide more efficiency to the process.

4. *The Timing of the PER Process Should Be Consistent with the Taxpayer's Ability to Elect "Direct Pay" of the Section 45V Credit Pursuant to Section 6417.* AFCC appreciates that the PER process is newly established and will not be operational until April 1, 2024. However, AFCC and its members are concerned that a backlog in addressing PER applications could prevent Section 45V Credits from being eligible for the direct pay election under Section 6417.

Section 6417 permits a taxpayer to elect to treat Section 45V Credits as a payment of tax for the first five taxable years after the election is made.[3] This treatment causes a taxpayer with otherwise no federal income tax liability to claim a refund of the amounts of the Section 45V Credits. An election must be made on the taxpayer's original tax return for the taxable year of the election filed on or before the due date (including extensions) of such return.[4]

Given that the PER application process will not open until April 1, 2024, it is entirely possible that a PER determination will not be available in time to include on a taxpayer's timely federal filed income tax return for its taxable year ending in 2023, preventing a taxpayer from making the direct pay election for qualified clean hydrogen produced in 2023. A similar result could occur in subsequent years depending on the ability of the Department of Energy to process PER determination applications. Treasury should permit an extension of the direct pay election in such circumstances.

5. *The Requirements for a Qualifying Energy Attribute Certificate ("EAC") Are Overly Restrictive.* AFCC appreciates the purposes of the three pillars to match the use of EACs to match the production of renewable energy but believes that aspects of the requirements are overly burdensome and would diminish the production of hydrogen.

a. With respect to the incrementality pillar, AFCC disagrees with the requirement (with no exceptions) that the electricity generation facility must have commenced commercial operations no earlier than 36 months before the hydrogen production facility was placed in service for an EAC to be a qualifying EAC. AFCC suggests that Treasury incorporates in its final rule

[3] I.R.C. §§6417(a); 6417(d)(1)(B).
[4] Prop. Treas. Reg. §301.6417-2(b)(1)(ii).

its "formulaic approach." In addition, AFCC supports percentage allowance approach in which a fixed percentage of the hourly generation from minimal-emitting electricity generators placed in service before January 1, 2023, would be deemed as automatically meeting the incrementality requirement. Furthermore, rather than five percent we recommend that the IRS finalize the allowance level at 10 percent.

Treasury should also clarify the incrementality rule with respect to expansions of projects that qualify under the 80/20 rule. For example, assume a taxpayer places a qualified clean hydrogen production facility in service on November 1, 2024. The taxpayer later expands the project in a manner meeting the 80/20 rule and places the expansion in service on November 1, 2027.

Pursuant to the Proposed Rule, the project would be deemed to be placed in service on November 1, 2027 for purposes of the 10-year period for claiming the Section 45V production tax credit. However, it is unclear whether the taxpayer could continue to rely on an EAC from renewable energy generation sources that began commercial operation before November 1, 2024 but within 36 months of the original placed in service date. AFCC urges Treasury to adopt a final rule that permits relying on an EAC within 36 months of the original placed in service date.

b. With respect to deliverability, Treasury should adopt a rule accepting current and future balancing authorities as supporting deliverability. A balancing authority is responsible for ensuring the safe and reliable operation of the power system in a specific geographical area, we believe Treasury has made an unnecessary, and unexplained exception for the MISO balancing authority, which is split into two regions. Accordingly, we urge Treasury to provide greater predictability by respecting balancing authority boundaries when defining regions for purposes of the section 45V credit. This acceptance should apply to MISO and future balancing authorities.

c. With respect to temporal matching, the Notice of Proposed Rulemaking states that the proposed transition rule providing annual matching until January 1, 2028 "would allow sufficient time for [EAC tracking] systems to develop hourly tracking mechanisms and for the associated trading markets to develop." However, the Notice of Proposed Rulemaking acknowledges uncertainty in the timing of implementing an hourly matching requirement. AFCC suggests that considering this uncertainty that the final rule extend the transition rule until January 1, 2032.

Treasury should also provide guidance on how storage may be used to shift renewably generated power to enable hourly matching. Aligned with its rationale for regionality and hourly matching, the IRS should clarify that

electricity storage, when charged in the same hour that a renewable project generates electricity on the same grid, may receive a transfer of the hourly EACs generated by that renewable project, and then may discharge that energy and transfer EACs with a new hourly stamp representing the time of discharge (and discounted by round-trip efficiency) to supply power to a hydrogen production facility.

d. Finally, Treasury should affirmatively state that the impact of the failure to obtain a qualified EAC is to assume that electricity for the facility is purchased from the grid for purposes of determining lifecycle GHG emissions. Some members of AFCC have expressed concern that lack of this rule could be interpreted to disqualify projects altogether, even if electricity use is a minor factor. Moreover, the CI of grid-sourced electricity should be evaluated according to the generation portfolio of the power purchase agreement without regard to the three pillars required to qualify an EAC.

5. *Treasury Should Clarify the Methodology for Calculating Greenhous Gas ("GHG") Emissions for Hydrogen Produced from RNG.* The reforming of methane into hydrogen can avoid methane emissions that otherwise would have been emitted into the atmosphere. These avoided emissions should be factored into the lifecycle GHG emissions rate determination of the associated hydrogen. In addition, we believe that book-and-claim accounting of the methane feedstock should be allowed, with appropriate safeguards to eliminate double counting. Allowing book-and-claim accounting for RNG would enable companies to utilize existing natural gas transportation infrastructure.

AFCC appreciates the opportunity to provide these comments. Please do not hesitate to contact us if you have any questions.

Respectfully submitted,

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Alternative Fuels & Chemicals Coalition