RENEWABLE HYDROGEN ALLIANCE

December 2, 2022

VIA ONLINE PORTAL

https://www.regulations.gov/commenton/IRS-2022-0029-0001

Internal Revenue Service,
CC:PA:LPD:PR (Notice2022-58), Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

RE: Renewable Hydrogen Alliance (RHA) Comments per Notice IRS-2022-0058 - Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production

To Whom It May Concern:

Thank you for the opportunity to submit comments on the credits for clean hydrogen and clean fuel production in the Inflation Reduction Act (IRA).

RHA is a non-profit trade association based in Portland, Oregon focused on the use of renewable energy to produce hydrogen and other carbon neutral fuels. Our scope is the Pacific Northwest region and we advocate for beneficial renewable hydrogen policy in both Washington and Oregon state capitols. Our membership includes manufacturers, utilities, hydrogen and renewable energy project developers, tribes, independent power producers and others involved in all points of the hydrogen value chain.

RHA supports and appreciates the extension of production and investment tax credits to the hydrogen industry. Like tax incentives extended to the solar and wind industry, RHA believes that these incentives will be instrumental in facilitating the clean hydrogen ecosystem (production, distribution, storage and end use) to reach a scale of development that will lower costs, increase both supply and demand, and enable accessible and feasible decarbonization of several economic sectors.

In addition, as a non-profit trade association that counts in its membership several public utilities, RHA is particularly appreciative of the "direct pay" option for hydrogen tax credits. Several public utilities in the Northwest are looking to hydrogen production for portfolio diversity, grid resiliency and flexibility, system reliability, equipment O&M cost reduction
and keeping electricity rates low for their customers. Many of these utilities have extremely low

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kgCO2e/kWh electricity systems and they are located in rural, low income, disadvantaged communities that have the most to benefit from the availability of zero emitting hydrogen to reduce pollution and climate warming emissions. It is also key to bring to these communities the opportunity of clean energy jobs.

On behalf of our members, RHA offers the following comments, requests for clarification and suggestions, specifically with regard to Section 45(V) as laid out in the above referenced Notice for Comments (Section 3.01 Credit for Production of Clean Hydrogen).

1) <u>Specific Comments</u>

A. GREET Model (Comment Notice Section 3.01(1)(e))

RHA agrees with the use of a model such as GREET to calculate lifecycle greenhouse gas emissions of hydrogen produced. However, the tax code should make clear which version of GREET will be used, and the version used should not change over the life of a project. This is important for certainty and clarity of obligations in order for parties to obtain financing. If there is a possibility that the GREET model could change in any way over the life of a project, the value of credits received under 45V could change, meaning financial modeling and planning for the project is infeasible. Such uncertainty could hinder the development of projects of significant scale due to the value of the hydrogen PTC, and could slow the progress of decarbonization of the transportation, industrial and power sectors.

RHA would like to suggest a couple of possible approaches: a) require the use of one version of the GREET model (e.g., 2024) for all projects seeking credits under 45V; or b) projects in development must use the most current GREET model effective as of a point in time/phase of project development to be determined by Treasury which will then apply over the life of the facility. The latter approach needs fine-tuning as project development timelines commonly take two to five years, and the GREET model will need to be locked in during the project development and financing periods.

It will also be important to align the GREET model used for 45V to models used in other hydrogen production contexts. For example, allow taxpayers who already use the California or another state's GREET model to be deemed compliant with Argonne GREET without having to obtain another certification for Argonne GREET. This is in alignment with RHA's comments on the Clean Hydrogen Production Standard (CHPS) and RHA's support of Footnote 11 in the Notice of Comment with respect to the lifecycle emissions target corresponding to a system boundary that terminates at the point at which hydrogen is delivered for end use. The need for a reasonably flexible, yet verifiable, carbon intensity (CI) lifecycle analysis scheme is critically important for assuring actual carbon emissions

reductions, securing project financing and enabling the growth of the hydrogen economy on a nationwide basis.

It is also important that the federal standards and guidelines align with the modeling and verification methodologies used under West Coast states' clean fuel standards, for instance the Low Carbon Fuel Standard CI calculation methodology that also uses GREET. Alignment with existing clean fuel standards would include use of book-and-claim accounting for renewable electricity inputs, and all renewable electricity inputs would need to be verified using Renewable Energy Credits (RECs) or other market mechanisms as described below under Item C.

B. Lifecycle Greenhouse Gas Emissions (Notice Comment Section 3.01(1)(a))

45V guidance should confirm that the GREET model analysis stops at hydrogen, i.e., the carbon intensity of further steps to produce ammonia or e-methanol is not considered.

C. Recordkeeping and Reporting (Notice Comment Section 3.01(4))

RHA would like to see very clear guidance provided about how to account for grid power and make it as easy as possible to demonstrate the CI score of an electrolytic hydrogen production plant that uses grid power. Examples could include the use of RECs, the Midwest Renewable Energy Tracking System (M-RETS), power purchase or virtual power purchase agreement (PPA or VPPA).

With regard to temporal and geographic matching of resources (indirect book accounting factors), upon further research and discussion with RHA's public utility members whose grid mixes are some of the cleanest in the nation, *RHA is modifying its comments provided in the response to the Notice of Public Comment on the Clean Hydrogen Production Standard (CHPS) with regard to temporal matching of resources*. Instead of monthly or quarterly matching, RHA now suggests matching grid resources on an annual basis for the production of renewable hydrogen. RHA's recommendation that the geographic matching mechanism be the system boundary of Balancing Area Authority (BAA) remains the same as in our CHPS comments.

While this recommendation on temporal matching may not align with other's comments to this Notice, it is in keeping with the need, as the expansion of the hydrogen economy is in its beginning stages, for carbon intensity accounting to remain as flexible as possible with the mechanisms employed to assure both low or zero carbon hydrogen production is feasible, financeable and achieves needed scale. Please see further explanation and justification under Item 1) D below.

D. Alignment with Clean Hydrogen Production Standard (Notice Comment Section 3.01(2))

It has recently come to RHA's attention that a public utility in Washington State with a 98% clean electricity mix, as verified through required annual fuel mix reporting to the Washington State Department of Commerce, can only achieve a minimum carbon intensity of .56kgCO2e/kg H2 produced electrolytically on the utility's grid.

RHA understands that the threshold emission limit of .45kgCO2e/kg H2 may have been set to require dedicated renewable energy facilities in order to get the full credit.

Suffice it to say that if a municipal utility in a hydroelectric dominant state power system cannot meet the lowest CI threshold for the full PTC, there is likely no other utility or producer of electrolytic hydrogen in the nation that will be able to without massive investment and decades long delays to build out dedicated renewable energy projects with significant land use impacts. Consequently, this risks significantly delaying and limiting the production of adequate supplies of truly clean hydrogen to decarbonize several key and emissions intensive sectors of our economy.

Requiring directly connected (behind the meter) or dedicated renewable resources to power electrolyzers is often referred to as "additionality" and seems to be a requirement only discussed in the context of facilities that use electricity to produce hydrogen. In contrast, no such requirement is considered or imposed upon the electricity used for home or public electric vehicle charging, the production of biofuels, the mining of crypto currency or any other electricity load. RHA is at a loss as to why such a requirement is being discussed for hydrogen production, and hydrogen production only.

RHA believes that such "load policing" could set a dangerous precedent by allowing a few stakeholders to restrict access to the grid by industries or other customers whose activities or operations those stakeholders may not support. RHA believes this would amount to customer discrimination in the provision of electricity service and thereby, violate the long held doctrine of "duty to serve" that state utility regulatory agencies are required to uphold.

Furthermore, requiring such a restrictive and onerous mechanism as additionality puts at risk achievement of the goals of both the Bipartisan Infrastructure Law and the Inflation Reduction Act for reducing carbon emissions and building out a US clean hydrogen economy. RHA also notes the recent decision by the European Parliament to not include an additionality requirement in the European Union Renewable Energy Directive II (RED II).

Such a requirement is also unnecessary as every west coast state has a 100% clean energy requirement. If "additionality" is the goal with the .45 kg CO2e threshold, most of the Pacific

Northwest electricity grid has already started down this path with 100% clean electricity programs enshrined in law in both Oregon and Washington with demonstrable and verifiable compliance requirements subject to penalty for non-compliance.

Therefore, RHA would encourage the Department to consider re-evaluating the threshold to qualify for the full PTC and pursue a possible legislative fix at an appropriate time. Such a fix might include reducing the "step" between the $3 and $1 per kg H2 PTC if it becomes apparent that investment and financing of projects is being hindered or not reaching levels intended or hoped for in order to achieve GHG emission reduction targets.

In the meantime, and with the understanding that the West Coast states are in a unique hydrogen production carbon intensity will be calculated are needed as well as easily navigable guidelines describing what hydrogen producers can do to lower their carbon intensity. In light of the high and statutorily mandated increasing penetration of clean energy resources in Washington and Oregon's grid mix, RHA encourages DOE and Treasury to pursue the following tasks:

- Specify how the hydrogen PTC program will estimate a carbon intensity factor for utilities, states, and/or regions. USDOE Energy Information Administration's data may be useful in creating state-specific or regional estimates.
- As previously suggested above, permit the acquisition and retirement of RECs for whatever portion of grid power is designated as "unspecified" under the program's standards.[1]

Related to this and to address the question posed by Treasury below:

3.01(1)(d) If a facility is producing qualified clean hydrogen during part of the taxable year, and also produces hydrogen that is not qualified clean hydrogen during other parts of the taxable year (for example, due to an emissions rate of greater than 4 kilograms of CO2-e per kilogram of hydrogen), should the facility be eligible to claim the § 45V credit only for the qualified clean hydrogen it produces, or should it be restricted from claiming the § 45V credit entirely for that taxable year?"
As suggested above under Item C, for HYDROGEN producers using RECs, power purchase agreements or similar mechanisms to lower their carbon intensities, we encourage USDOE and Treasury to require annual matching of resources to electrolysis load, making space for future refinements as necessary and as markets and technologies mature.

A slight modification of this approach would be, in the case of the municipal utility situation described above that has a predominant mix of renewable supply and minimal amount of emitting supply, to apply the CI score on the taxable year basis so rather than having a 98% clean grid not comply with the

[1] PPAs and VPPAs for renewable power would serve, in essence, as renewable resource "additionality".

.45kg CO2e/kg H2, 98% of the hydrogen produced via grid electrolysis would be below that threshold and would qualify, and 2% that is produced using market purchased energy (potentially fossil[2] supplied) would not qualify. This would allow for distributed electrolysis to not be subject to the binary yes or no of qualifying for the lowest CI and could avoid the need to book and claim RECs for compliance.

Another advantage of the annual resource matching approach is that it avoids the need for having to temporally match load with resources several times per year which avoids potential significant and/or frequent wide fluctuations in hydrogen pricing, negative impacts on the consumer price index or other market disruptions. As stated earlier, price uncertainty leads to investment uncertainty which could discourage the financing of projects, leading to supply constraints and inability to maintain the pace of economic sector decarbonization efforts, fulfill climate justice community benefit, workforce development and other objectives. As a result, achieving the Administration's goal of enabling and accelerating a clean hydrogen economy would become more difficult which could have not only undesirable economic impacts, but could create political volatility around the clean hydrogen program, as well.

2) <u>Other Comments</u>

A. Lack of Incentive to Use Clean Hydrogen

RHA believes that the lack of incentives in the IRA to <u>use</u> green hydrogen needs to be addressed. Reducing prices by incentivizing production should go far in existing use cases, but those use cases are limited. Industrial decarbonization will not happen at the scale needed if industrial process heat applications are not incentivized to switch to hydrogen or hydrogen blends as a feedstock enabling the possible transition away from natural gas. RHA also understands that one of heavy industry's biggest concern is de-risking a transition to hydrogen in their processes as equipment or process failure could lead to unplanned and expensive plant shutdowns. Federal funding could facilitate investment in hydrogen equipment and/or process technology that would allow for temporarily continuing natural gas usage (redundancy) so that operations could continue while an industrial facility is transitioning to hydrogen.

In addition, incentives could accelerate the achievement of a balanced approach to both production, i.e. supply and end use, i.e., demand which is a key goal of another of the Administration's significant achievements on hydrogen, the BIL's hydrogen hub funding opportunity. Department of Defense and

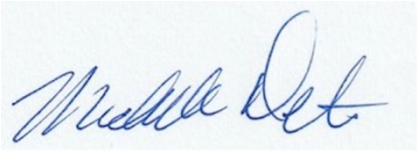
[2] Under Washington's 100% clean energy program (Clean Energy Transformation Act), this grid energy would be classified as "unspecified power or unspecified power market purchases" and is not necessarily fossil fuel. However, market purchases are not tracked and therefore cannot be verified as clean, renewable or non-emitting.

other agency procurement contracts and Department of Energy and Department of Transportation incentives are some tools that could drive this effort.

B. Infrastructure Needs – Pipelines

It is likely unavoidable, for cost effectiveness and other reasons, that more dedicated hydrogen pipelines will be needed to transport all of the clean hydrogen, ammonia and other clean fuels from where they are produced to where they are needed, particularly given the increasing frequency of disruptions in existing modes of transportation. The Washington Post has been reporting on, and the White House recently convened a roundtable with transportation industry leaders on the drought on the Mississippi river. In fact, it is worth noting that most of the ammonia-based fertilizer in the country is shipped via the Mississippi. RHA understands that pipelines are first a jurisdictional issue for FERC, but any government help to streamline permitting and financially support the building of pipelines will be a worthwhile and welcomed investment.

Sincerely,



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