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Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-58), Room 5203
P.O. Box 7604, Ben Franklin Station, Washington, DC 20044

Re: Notice 2022-58 Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production

Thank you for the opportunity to provide comments on the draft § 45V Hydrogen Production Tax Credit. The Washington State Department of Commerce is pleased to offer comments on a few key aspects of the proposed credit program from our state Energy Office.

Washington State has a very clean, affordable grid due in part to hydropower resources across the region. Additionally, Washington passed the Clean Energy Transformation Act (CETA) which commits Washington to an electricity supply that is carbon-neutral by 2030 and free of greenhouse gas emissions by 2045. This combined with a cap and invest program and a Clean Fuel Standard (CFS) that come into force in January 2023, alongside our State Energy Strategy which identifies important roles for clean hydrogen in achieving statewide net-zero targets, means we see Washington State as a place where it may be appropriate to accelerate the deployment of clean hydrogen production, connected to strategic end uses in the region.

Overall, we are encouraging of the creation of this credit and the ways in which it is coordinated with the Department of Energy's proposed Clean Hydrogen Production Standard (CHPS). Clean hydrogen will play an important role in helping to reduce emissions in some of the hardest to decarbonize sectors of our economy, though it is important to reduce the costs of clean hydrogen so that it can replace current high-emitting production systems. We believe that for both the § 45V rules and the DOE CHPS guidelines, the lifecycle GHG emissions calculation should use methodologies that are consistent with existing carbon intensity calculations under state clean fuel programs. These programs already implement the GREET model as specified in § 45V(c)(1).

Consistency with existing state program implementations of the GREET model to determine carbon intensities is very important to ensure the credit program both works effectively in states already implementing Clean Fuel Standard, Low Carbon Fuel standard or related programs that use the GREET model, and that the credit has strong provisions that ensure renewable and clean energy resources are being brought online to support increased electric load that will be needed for electrolytic hydrogen production. Additional details are provided below in response to specific questions in this request for feedback, all related to section 01 Credit for Production of Clean Hydrogen.

1. (e) (i) How might clean hydrogen production facilities verify the production of qualified clean hydrogen using other specific energy sources?

The GREET model has the ability to accommodate user-defined fuel mix information, providing locally-specific data, and this option should be permitted as part of 45V credit generation and related federal hydrogen programs.

We encourage IRS to track carbon intensity using a methodology with dual tracking components to get a complete picture of the carbon intensity of hydrogen in the § 45V credit. The first component would include only direct GHG accounting, related to the GHG emissions directly associated with the life cycle of hydrogen, including feedstocks. This will help to direct part of the incentives related to this program towards improving the feedstocks, production processes and technologies that are deployed in the production of hydrogen.

The second component of the carbon intensity standard should track direct plus indirect (or effective) GHG emissions associated with the full life cycle of hydrogen production. This should include book-and-claim accounting methods such as using renewable energy credits (RECs), which enable accounting for clean electricity and GHG reduction attributes that contribute to the lifecycle emissions associated with the hydrogen. This combined approach supports pragmatic GHG accounting and incentivizes GHG reductions in a power grid by creating methods to account for additional use of renewables above the amounts reflected in the average generation mix of the grid.

It is important to establish the basis for carbon intensity calculations, as GREET has multiple options. The GREET model includes default values that can be used in the carbon intensity calculation, but the 45V credit method must ensure that all taxpayers are applying consistent standards. Any variation in input values must be based on demonstrated differences in inputs or processes. Consistent input standards are required for:

- Global warming potential of GHG gases, as GREET has options to use different IPCC Assessment Report numbers;
- Criteria for considering avoided GHG emissions in the carbon intensity calculations;
- Relevant allocation methods to distribute the GHG impacts among co-products, if applicable, including hydrogen;
- Identifying energy sources that are considered GHG free;
- Whether the fuel supply chain infrastructures are going to be accounted in the carbon intensity calculation;
- Specification that the system boundary will be well-to-gate.

4. (f) Should indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions (also known as a book and claim system), including, but not limited to, renewable energy credits, power purchase agreements, renewable thermal credits, or biogas credits be considered when calculating the § 45V credit?

Book and claim accounting has been successfully implemented in carbon intensity calculations under state clean fuel standards in California, Oregon, and Washington, and this approach should be available in determining tax credit levels for § 45V.

All claims of the use of renewable electricity in hydrogen production should be verified by the creation and retirement of renewable energy certificates (RECs) through the existing tracking systems, such as the Western Renewable Energy Generation Information System. The creation and retirement of RECs in these systems provides documentation that electricity was generated using renewable energy and that the entity retiring the REC holds a unique claim on these attributes. There is no need for alternative tracking methods,

such as contract attestations, given the universal availability of rigorous REC tracking systems, and use of alternative tracking methods increases the risk that renewable attributes will be double-counted.

Book-and-claim accounting of RECs is used in clean fuel standards in Oregon and California and, starting in 2023, in Washington. This approach provides an important mechanism for fuel producers to document their claims on an electricity supply with a lower carbon intensity than the grid-supplied power otherwise available to that producer. Book-and-claim accounting provides consistent accounting whether the lower-intensity electricity is procured through the many variations of purchased power agreements, utility green power programs, and acquisition of renewable energy certificates.

4. (g) If indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions, such as zero-emission credits or power purchase agreements for clean energy, are considered in calculating the § 45V credit, what considerations (such as time, location, and vintage) should be included in determining the greenhouse gas emissions rate of these book accounting factors?

The carbon intensity methodology used under § 45V should reflect the wide range of scale at which hydrogen will be produced by electrolysis. For taxpayers operating small electrolyzers using grid-sourced electricity, a regional average emissions factor such as the EPA eGRID values is reasonable. However, in most cases large electrolyzer facilities will obtain electricity supplies from specific generating facilities. These taxpayers should be required to document that electricity generation and hydrogen electrolysis are matched in time and occur within interconnected electricity grids.

Regardless of system scale, rules concerning book and claim accounting should reflect the existing level of granularity of RECs. More specific time accounting would be needed if taxpayers were relying on RECs to make a claim about avoided GHG emissions as a result of renewable generation, but here the taxpayer is not making a claim about avoided emissions. Rather, the REC is used to validate a claim on the zero-emission attribute of renewable electricity and to ensure that this claim is not double-counted.

The current design of REC tracking systems provides generation data at the monthly level, and this is a reasonable level of detail to match generation and use. At some future point there may be merit in using more granular timestamp information if this product becomes widely available on a commercial basis.

5. (a) What certifications, professional licenses, or other qualifications, if any, should be required for an unrelated party to verify the production and sale or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?

It is important to allow the use of third-party verification requirements that may be required or supported by states' Low Carbon Fuel Standard (LCFS), CFS, or related programs, as long as they meet the ISO 14067 requirements. The 45V credit should include methods for recognition of the third-party verifier accreditation system in states' LCFS, CFS and related programs.

Thank you for the opportunity to submit comments. Please feel free to reach out with any questions.

Sincerely,

Glenn Blackmon
Manager, Energy Policy Office
Washington State Department of Commerce