December 2nd, 2022

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

RE: Bonneville Environmental Foundation (BEF) 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 this opportunity to provide input into this important rulemaking process for Clean Hydrogen Production credits. On behalf of the Bonneville Environmental Foundation (BEF), I am providing comments and suggestions for how to structure the new Section 45V Clean Hydrogen Tax Credits rules.

BEF has been involved with renewable hydrogen for the past five years and is uniquely positioned to evaluate the various production methods and end use sectors for renewable hydrogen. BEF's mission focuses on expanding the amount of renewable energy generation in the Pacific Northwest region for the benefit of the overall electricity system, and we identify renewable, electrolytic hydrogen production as a major opportunity to realize greater penetrations of renewable electricity on the grid and to achieve deep decarbonization of various sectors.

Comments on IRS Notice 2022-58. Clean Hydrogen Production Credit

Listed below is some context for the challenges we observe from working on renewable hydrogen in the Pacific Northwest.

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- Hydrogen is a challenging molecule to transport in gaseous form, especially over the road in the absence of a dedicated pipeline. This will be the case in many early applications for hydrogen as the market matures. There is an advantage and significant value in producing electrolytic hydrogen close to the user to minimize transportation costs.
- Early calculations show that even a 98% clean grid will not qualify for the lowest clean hydrogen carbon intensity which would drastically disadvantage distributed electrolysis applications if applying that grid mix to each kg of H2 produced.
- In addition, the grid carbon intensity can fluctuate year over year based on renewable variability and market purchases. Having regulatory certainty for projects is critical to financing this infrastructure and investors need to be certain of the level of subsidy applicable to any power supply.
- Many transit districts are interested in deploying H2 fueling stations that have co-located electrolysis production will be at a disadvantage if the blended power supply's carbon intensity is applied to all kgs of H2 production.

With these factors in mind, we would provide the following comments and recommendations to the questions posed below:

(1) *Clean Hydrogen (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?*

The facility should be allowed to claim the section 45V credit for the proportional amount of qualified clean hydrogen that it produces from renewable power in a year. Moreover, the facility should not be required to produce 100% clean hydrogen all the time in order to claim the credit. In fact, it should be allowed to claim the credit on the portion of its annual electricity mix that meets the clean hydrogen CO2 emissions requirement. This treatment would be similar to State Low Carbon Fuel Standard programs and the EPA RIN program for renewable fuels where the RIN credits generated are variable based on the specific source of feedstock and the specific pathway of production.

This is a critical factor that can affect a dramatic shift in how a project is compensated via tax credits. Especially for smaller and distributed electrolysis that may be served by a distribution

utility, the electrolyzer will have limited control of the utility resource mix and limited visibility into when the periods of renewable production are occurring. In addition, many utilities do not publish their fuel/power mix on a more granular level than annually.

The biggest factor here is that any utility with a resource mix lower than 99% renewable would make distributed electrolysis ineligible for the 30% ITC or the $3/kg PTC for clean hydrogen production. This is a classic example of letting the perfect be the enemy of the good and does not provide equitable treatment for the variety of electrolytic hydrogen projects that could materialize. Our suggestion would be to apply the percentage of renewable supply from the utility on an annual basis to the hydrogen production. For example, if the electricity mix is 95% renewable, then the hydrogen producer should be allowed to claim the renewable hydrogen tax credit on 95% of the hydrogen it produced.

(1) *Clean Hydrogen (e) (ii) What granularity of time matching (that is, annual, hourly, or other) of energy inputs used in the qualified clean hydrogen production process should be required?*

The time matching should be allocated on an annual basis, especially for small projects that do not control the information of hourly generation. Most electric utilities do not share hourly generation data with their customers and similarly not all even produce annual reports of their carbon intensity when not required by the State or regulators.

While it can be argued that large projects can absorb the cost of time hourly matching of supply and electrolyzer load, small projects would be put at a disadvantage and would have to rely on their utilities, Balancing Authority, or 3rd party power supplier to provide this information to them. That could create a situation where the electrolyzer project has no control over how or when this information is reported.

(4) Recordkeeping and Reporting (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?

While in general this is not a recommended solution there will be scenarios where this type of book and claim approach could make sense. For any project to have certainty and bankability a mechanism to clean up a portion of electricity supply could be the difference in a project

getting financed or not. As a grid's carbon intensity can vary year over year the projected revenues or tax credit values could fluctuate accordingly. If there is a dramatic step change from $3/kg to $1/kg because of a slight change in the CI score year over year, it could make for a dramatic swing in the project's financials. This is why we would encourage the annual percentage of clean power to be applied to the annual production of hydrogen (i.e. a 98% clean grid would enable 98% of the H2 produced to qualify for the PTC annually) rather than have these abrupt changes in incentive value which creates too much financial uncertainty.

An alternative solution would be that a maximum of 5 to 10% of an electrolyzer load could be offset with unbundled RECs to allow for annual compliance when the carbon intensity varies year over year. With fears that this approach could be "gamed" by fossil fueled electrolysis the size of the projects could be limited to distributed and small projects under 20MW.

Hydrogen is poised to become a critical solution for decarbonization but it will need significant and targeted support in order to scale up in new sectors. This is why we recommend flexibility and inclusivity in how these rules are formulated for both small and large projects. We appreciate your thoughtfulness and consideration in this matter.

Sincerely,

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