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February 26, 2024

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

Subject: IRS and REG–117631–23/Section 45V Clean Hydrogen Production Tax Credits (PTCs)

On behalf of Black & Veatch Corporation, I am submitting these comments on the Section 45V Clean Hydrogen Production Tax Credits pursuant to the Notice of Proposed Rulemaking (REG-117631-23).

Black & Veatch is a 100% employee-owned, global employee-owned engineering, procurement, and construction (EPC) company with a more than a 100-year legacy of innovations in sustainable infrastructure. We are headquartered in Overland Park, Kansas and have more than 10,000 employees worldwide designing and building state of the art projects in key sectors including renewable energy, grid and transmission, water and wastewater infrastructure, desalination and water reuse, sustainable mining, data centers, broadband, floating liquefied natural gas (FLNG) and many more sectors. Since our founding in 1915, Black & Veatch has grown to become one of the world's most successful EPC companies while providing a range of services to the United States Government. In fact, we are proud to be the EPC provider to the Advanced Clean Energy Storage Project located in Delta, Utah, which received the first loan guarantee from the US Department of Energy (DOE) Loan Program Office in nearly a decade. The Advanced Clean Energy Storage Project, when complete, will be the nation's largest green hydrogen production and storage facility.

It is through that lens that we offer our perspective on the components or "three pillars" found in the proposed rule concerning the 45V hydrogen PTCs. We support the decarbonization goals and objectives of the Administration to expand hydrogen and clean energy infrastructure. However, we are concerned that as drafted the proposed rule will hinder the buildout of clean hydrogen infrastructure and its adoption in difficult to decarbonize industries. Below are suggested changes and modifications that could significantly enable and incentivize the buildout of more hydrogen projects in what is still a nascent industry.

- **Temporal Matching** – The proposed deadline of January 1, 2028, to require hourly or temporal matching of 100% clean energy will significantly limit the number of projects that could qualify for 45V PTCs. This restrictive deadline was not included in the Inflation Reduction Act bill text for good reason – it would make most green hydrogen projects, especially first movers, financially challenged, and would severely limit the geographic scope of where projects could be sited. Most planned projects are not located in areas of the country where continuous, greenhouse gas (GHG) emissions-free power is available. If a developer is making the investment of potentially several billion for a clean hydrogen project it needs the ability to run its electrolyzers continuously, not on a limited basis when the grid is supplying continuous GHG emissions-free power, to recover costs. From a technical standpoint, hydrogen facilities are not currently being designed to switch from an annual to an hourly matched standard; it is inherent in the design of a facility. Switching from an annual to hourly matched facility would require significant cost increases with an overbuild of electrolyzers

before the project's commercial operation date. The hourly match deadline in the NPRM, which occurs essentially in three years, simply provides too little time for most projects trying to get off the ground or make final investment decisions. Providing grandfathering of first-mover projects with an annual match standard and safe harbor provisions that start construction before the proposed January 2028 deadline would be a responsible path forward. It would provide the assurance of the full 10-year tax window for investors that are ready to move while creating added stringent standards that a maturing industry can meet over time. Grandfathering or providing additional time windows is essential because the NPRM relies on technology that has not been proven nationwide to certify hourly matching through energy attribute certificates (EACs). The text of the NPRM notes that in areas where hourly matching occurs the software functionality "remains limited" and the proposal relies on one single report that assumes hourly matching with EACs can occur within four years.

- **Additionality/Incrementality** – The stringent requirements are overly broad in excluding existing GHG emissions-free nuclear power, hydroelectricity, and curtailed solar and wind from supplying power to qualifying hydrogen facilities under 45V. In October 2023, the Energy Information Administration noted that "In 2022, CAISO curtailed 2.4 million megawatthours (MWh) of utility-scale wind and solar output, a 63% increase from the amount of electricity curtailed in 2021. As of September, CAISO has curtailed more than 2.3 million MWh of wind and solar output so far this year." Excluding curtailed solar and wind is simply just wasting clean energy that no facility is using and thus is not competing with existing clean power generation. Treasury should allow for projects to use "low price" market signals as a proxy for Incrementality and Temporality. Such an approach creates a transparent market signal for hydrogen production resources to efficiently capture surplus energy by locating and designing facilities to capture and store this excess renewable energy. Excluding existing clean energy resources also adds unnecessary and significant burdens on consumers to pay for more new capacity and battery energy storage systems when existing resources can be used to help drive down costs for green hydrogen production. Further, these requirements would likely mean several of the hydrogen hubs projects selected by the DOE and its $8 billion in public investment could be put at risk because of the inability to use 45V credits due to the prohibition on existing nuclear and hydropower from qualifying. Generation profiles of states are getting cleaner, and many have ambitious decarbonization goals and commitments. More time should be given for states to meet these objectives before new prohibitions are put in place that limit the use of existing clean energy for hydrogen development.
- **Deliverability/Regionality** – The current geographic limitations for deliverability are too narrowly defined and create scenarios where regional projects cannot use the 45V credit simply because of a state boundary line. For example, the two largest states with the most significant decarbonization goals, California and New York, are defined in the NPRM as isolated regions by the boundaries of their independent system operators (ISOs) while the reality is each is dependent on transmission links and out of state generation energy to maintain reliability. A more comprehensive scope should be considered so that deliverability definitions could consider transmission links between NERC Regional Reliability Councils and market alignment such as the Western Energy Imbalance Market (WEIM) with the Western Energy Imbalance Service Market (WEIS).This would provide needed flexibility to encourage more project adoption.
- **Placed In Service** – Treasury should provide more flexibility to ensure that the "placed in service" date does not occur until a facility's operational testing is completed. This

operational flexibility would allow a facility to claim, and benefit from the credit without having to determine the precise moment of the placed in-service date. In practical terms for new facilities, hydrogen might need to be produced and stored for many weeks or even months before the storage facilities reach pressures that are high enough for when the fuel can be withdrawn and utilized. Because of these operational vagaries, the "placed in service" date can be challenging to predict for new facilities. To avoid these issues, Treasury should allow for a placed in-service date that is within a one-year period of the facility's first production of commercial quantities of hydrogen.

With these modest suggested changes, it would greatly improve the deployment of clean hydrogen infrastructure across the country and help meet the Administration's decarbonization goals. We strongly encourage more operational flexibility that will make clean hydrogen adoption and production a reality rather than simply a niche market. Not only will this drive down GHG emissions, but economies of scale for this emerging industry. Thank you for the opportunity to share our perspective on this important topic.

Respectfully submitted,
BLACK & VEATCH CORPORATION

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