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**BOILERMAKERS • IRON SHIP BUILDERS**

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U.S. Treasury Department  
1500 Pennsylvania Avenue N.W.  
Washington, D.C. 20220

Internal Revenue Service  
1111 Constitution Avenue N.W.  
Washington, D.C. 20224

**RE: COMMENTS OF THE INTERNATIONAL BROTHERHOOD OF BOILERMAKERS ON PROPOSED  
RULE TO PROVIDE SECTION 45V CREDITS FOR THE PRODUCTION OF CLEAN HYDROGEN**

**DOCKET ID. NO. IRS AND REG-117631-23**

The International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers (“Boilermakers” or “IBB”) appreciates the opportunity to submit to the U.S. Treasury Department and the Internal Revenue Service (collectively “Treasury”) the following written comments on the Proposed Rule setting forth the regulations for providing Section 45V credits for the production of clean hydrogen (“Proposed Rule” or “Proposal”).<sup>1</sup> The Proposed Rule would establish key requirements and policies for the implementation of the federal tax incentive program for promoting the production and use of clean hydrogen under Section 45V of the Internal Revenue Code, as adopted through Section 13204 of the Inflation Reduction Act (“IRA”).

Although generally supportive of the Proposed Rule, the Boilermakers are concerned that Treasury’s Proposal has important policy and technical shortcomings that may impair the Biden Administration from achieving its clean hydrogen and climate change objectives. These concerns are addressed in our comments below and are presented with greater detail and specificity in the comments of the Clean Hydrogen Future Coalition (“CHFC”). The IBB – as a CHFC member – endorses and incorporates the CHFC comments by reference hereto into our comments. The comments below begin with a brief overview of the Boilermakers, highlighting

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<sup>1</sup> See 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).

the importance of the Section 45V tax credits to IBB and its members as well as the critically important role that the Treasury’s rules and policies play in harnessing skilled labor in the buildout of the clean energy infrastructure needed for rapidly transitioning to a clean energy economy.

### **IMPORTANCE OF THE SECTION 45V INCENTIVE PROGRAM TO BOILERMAKERS**

IBB grew out of the Industrial Revolution and the demand for steam power. Organized in 1880, the Boilermakers are one of the oldest unions in North America. We are headquartered in Kansas City, Missouri and provide valuable union services to more than 200 local lodges and their members throughout the United States and Canada. Through this national network of local lodges, the Boilermakers unite all of its union members in the common endeavor to improve the lives and lifestyles of its members as well as other American workers.

Our members are employed in heavy industry, shipbuilding, manufacturing, railroads, cement, mining, and related industries. We construct and repair electric power plants, refineries, pulp and paper mills, and steel mills. Boilermakers also build naval ships and commercial tankers, repair locomotives, make cement, and mine coal, gypsum, and talc. We forge tools for industry and make consumer goods. Our highly skilled members have built nuclear, gas-fired, and advanced coal-fired power plants, as well as military ships, including various classes of submarines. Boilermakers helped construct the U.S.S. *New York* amphibious transport dock (launched in late 2009), which includes steel from the Twin Towers.<sup>2</sup>

Economy-wide decarbonization using clean hydrogen as a pathway necessitates production utilizing multiple methods and sources. Steam methane reforming (“SMR”) with carbon capture presents a scalable and efficient means of producing large volumes of clean hydrogen while simultaneously preserving and creating thousands of jobs for Boilermakers and the American economy. SMR is a mature process and one in which Boilermakers possess extensive familiarity.<sup>3</sup>

A fundamental aspect of the Boilermaker trade is proficiency in the construction, installation, repair, and maintenance of pressure vessels, particularly within heavy industry. Components integral to the SMR process – heaters, reactors, absorbers, heat exchangers – operate at high

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<sup>2</sup> Boilermakers also helped build the world’s first nuclear submarine, the U.S.S. *Nautilus*. Boilermakers from Pennsylvania crafted the structural sections of the Gateway Arch in St. Louis (which includes 900 tons of stainless steel – more than any other project in the world at the time it was built). And it was our union members who manufactured the aluminum-based fuel for the space shuttle’s solid rocket boosters.

<sup>3</sup> In the petroleum refining industry, hydrogen is used to produce low-sulfur diesel, gasoline, and other lighter transportation fuels. To produce hydrogen through SMR technologies, purified natural gas is subjected to high temperature steam and pressure in the presence of a catalyst. The resulting reaction produces a synthetic gas (syngas) mixture of hydrogen and carbon monoxide. The carbon monoxide and steam are then fed through a second process, or water-gas shift reaction, to produce additional hydrogen. Carbon dioxide (“CO<sub>2</sub>”) and other impurities are removed in the final step through various methods, including amine absorption and pressure-swing adsorption, to produce pure hydrogen. Heat produced during the SMR process is recovered for feedwater and natural gas preheating and to maintain system efficiency. See U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. *Hydrogen Production: Natural Gas Reforming*, <https://www.energy.gov/eere/fuelcells/hydrogen-production-natural-gas-reforming> (last accessed Feb. 21, 2024).

temperatures and pressures and require routine maintenance for optimal operational efficiency. For decades at refineries throughout the United States, maintenance, repair, and replacement of SMR and other refinery process vessels have generated millions of man-hours for Boilermakers (as well as other American workers) and currently reflect a significant source of employment.

Retrofit of existing SMR facilities or construction of new SMR facilities with carbon capture systems will further stimulate job creation for Boilermakers and other American workers. Most post-combustion carbon capture systems, either in operation or under development, use chemical solvents to separate CO<sub>2</sub> from the process emissions stream. CO<sub>2</sub> separation and solvent regeneration are facilitated by multiple pressure vessels similar to those found in other industrial processes (e.g., absorbers, stripper columns, heat exchangers). As production of clean hydrogen through SMR with carbon capture scales up, thousands of skilled Boilermakers will be needed for pressure vessel construction, installation, and maintenance, as supported by analyses from the Great Plains Institute and the Global CCS Institute.<sup>4</sup>

The inclusion of significant investments in the Bipartisan Infrastructure Law to accelerate the domestic market for low-cost, clean hydrogen and the subsequent inclusion of the Clean Hydrogen Production Credit in the IRA legislation demonstrated the Biden Administration's strong commitment to the development of this important industry. Members of the IBB, who maintain and repair the industrial equipment and infrastructure at independent refineries and chemical facilities across the United States, as noted above, have vast experience with hydrogen and other chemical processes at these facilities.

In light of this clear linkage, our members will therefore be directly affected by the IRS proposed regulations for eligibility and implementation of the Section 45V hydrogen production tax credit and the IBB and its members have a clear and significant interest in the development of workable and effective regulatory framework for providing Section 45V credits.

### **LINKAGE BETWEEN CLEAN ENERGY TRANSITION AND SKILLED LABOR**

The Boilermakers support the Biden Administration's goals and Treasury's efforts to transition to a clean energy economy while also creating good, family-sustaining jobs for American workers.

First and foremost, we are committed to the advancement of a clean energy economy and support the development of federal policies encouraging the rapid deployment of those clean energy technologies and practices for reducing and avoiding CO<sub>2</sub> and other greenhouse gas ("GHG") emissions nationwide. One such important policy priority vital for transitioning to a net-zero GHG economy is the establishment of effective federal incentives in meaningful amounts for

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<sup>4</sup> U.S. Department of Energy, *Carbon Capture, Transport, & Storage: Supply Chain Deep Dive Assessment* (Feb. 24, 2022), <https://www.energy.gov/sites/default/files/2022-02/Carbon%20Capture%20Supply%20Chain%20Report%20-%20Final.pdf>. The Rhodium Group has also published an updated analysis of the economic benefits of carbon capture. Rhodium Group, *Carbon Capture and Storage Workforce Development: State by State*, <https://rhg.com/research/carbon-capture-and-storage-workforce-development-state-by-state/> (last accessed Feb. 21, 2024). Average annual jobs in hydrogen and refining combined estimated between 3,256 and 4,900.

stimulating the production and use of low-cost, clean hydrogen with a fully transparent lifecycle GHG accounting system applied consistently across the value chain.

Second, as we move towards achieving this overarching climate change goal of rapidly transitioning to a clean energy economy, Treasury should take all possible steps to develop effective and workable federal rules and policies for promoting a skilled labor force. Treasury's adoption of such federal rules and policies is critically important for the rapid buildout of the hydrogen production infrastructure. In so doing, Treasury should avoid the adoption of inflexible federal rules and counterproductive policies that can cause unnecessary market disruptions that not only impede the transition to a clean energy economy but also threaten the livelihoods of those skilled craft professionals, including IBB members, who serve our nation's hydrogen and chemical facilities.

The enhancement and protection of a highly skilled work force for the buildout of the hydrogen production infrastructure is critically important for American workers because these jobs can provide one of the highest-paying and consistent sources of employment for thousands of skilled workers, potentially accounting for millions of man-hours every year. When the operators of these facilities invest in new capital or undertake major or even routine maintenance hydrogen projects, they typically employ large numbers of highly skilled IBB craft workers and generally enhance the overall economy for the surrounding area.

#### **GUIDING PRINCIPLES FOR ENHANCING SKILLED LABOR FOR HYDROGEN PRODUCTION**

The rules and policies now under development by Treasury for providing Section 45V credits must be carefully crafted to promote the production, distribution, and use of clean hydrogen across a wide range of end-use applications.

To that end, the Boilermakers urge Treasury to establish durable federal rules and policies that can best reflect and harness the contributions of skilled labor for the buildout of the clean energy infrastructure needed for transitioning to a clean energy economy. Those federal rules and policies should recognize the value that skilled labor will bring to each sector of the clean hydrogen value chain and the contribution that the skills and proficiency of existing jobs will bring to a clean energy economy. Furthermore, those rules and policies must also reflect the important role that our infrastructure and existing assets can play in the deployment of clean hydrogen.

#### **ADDRESSING POLICY AND TECHNICAL SHORTCOMINGS IN TREASURY'S PROPOSAL**

With the Section 45V clean hydrogen production tax credit enacted by Congress through the IRA, the amount of clean hydrogen produced should grow and production costs decline over time. However, the successful, rapid buildout of the hydrogen infrastructure is dependent upon Treasury adopting and implementing effective federal rules and policies for the creation of a clean hydrogen market that is sustainable and economic over the long-term. Those federal rules and policies must be carefully crafted to promote the production, distribution, and use of clean hydrogen across a wide range of end-use applications. Furthermore, it is critically important that

these rules and policies reflect and harness the contributions of skilled labor and the buildout of the clean energy infrastructure needed for transitioning to a clean energy economy.

As currently drafted, the Boilermakers are concerned that the Proposed Rule will not fully achieve the Biden Administration's overall objective to enable the production of substantial quantities of low-cost clean hydrogen to be available for use as GHG control measures by many of the major sectors of our economy that have no realistic alternative option to reduce their GHG emissions. Notably, Treasury's Proposal would require clean hydrogen producers to adhere to overly restrictive rules on time matching, additionality, and regionality for the purchase of energy attribute certificates to be eligible for the tax credit.

These and other inflexible requirements in the Proposed Rule could most likely deter capital investments by driving up the costs of producing clean hydrogen – even with the use of the tax credit – causing clean hydrogen to remain uncompetitive with existing higher-emitting fuels and feedstocks it must replace. The lack of investment could consequently deter other supply chain investments in the energy equipment infrastructure that is necessary to reduce the costs of clean hydrogen production. Notable examples of such infrastructure include hydrogen electrolyzers, SMR technologies, and carbon capture and storage equipment.

To correct these policy and technical shortcomings, the Boilermakers urge Treasury to make the following changes to Treasury's final regulations, which are briefly identified below and discussed in further detail in the written comments of CHFC, which IBB has endorsed and are incorporating by reference into the Boilermakers comments:

- A taxpayer should be allowed to use the most recent 45VH2-GREET model available at the time the taxpayer's project begins construction and continue to use that model for the full ten-year tax credit claiming period. The taxpayer also should have the option to elect to use the most recent 45VH2-GREET model available during the ten-year tax credit claiming period.
- In light of the high costs and technical challenges on hourly matching, a taxpayer should be allowed to use annual time-matching if the taxpayer's project commences construction before January 1, 2030, for the life of the tax credit claiming period.
- A taxpayer should be deemed to have met the clean electricity incrementality requirements<sup>5</sup> if the source of clean electricity used to power the hydrogen production facility is operational (based on the commercial operations date) within five years from the first taxable year the taxpayer claims the tax credit.

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<sup>5</sup> Incrementality refers to Treasury's proposed requirement that a source of electricity for producing hydrogen represents an incremental source of electricity, such as electricity from an electricity generating facility that has a recent commercial operations date. The term incrementality is used in Treasury's proposed rule in the same way the term "additionality" is often used, which requires new sources of clean power generation to the power system to match demand increases from hydrogen production.

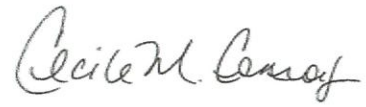
- Treasury should update the 45VH2-GREET model in the final rule to allow foreground inputs to account for the use of certified (or differentiated) natural gas supplies.
- Treasury should develop special rules for early projects providing that projects placed in-service by January 1, 2030, will have no incrementality requirements and annual time-matching of energy attribute certificates for the ten-year credit claiming period.
- Any project, even if its feedstock and product technology is currently represented in 45VH2-GREET, can apply for a “provisional emission rate” (“PER”) for any hydrogen production facility in order avoid penalizing taxpayers who have made investments in differentiated sources of methane (natural gas) or more efficient processes than those assumed in 45VH2-GREET. Without a PER that provides for the CO<sub>2</sub> intensity of the hydrogen production pathway, those projects will not be built, further limiting the creation of a clean hydrogen industry. Taxpayers that invest in ways to create more efficient and lower CO<sub>2</sub> emitting processes should have their efforts recognized and the emissions reductions counted as part of the 45V process.
- Standard book-and-claim accounting principles must be used for hydrogen produced using renewable natural gas, certified or differentiated natural gas.
- A curtailment safe harbor of electricity from existing clean resources should be increased from five to ten percent in order to address the growing level of curtailment in many regions of the country, allow the curtailed electricity to meet the incrementality requirements, and address several administrative issues.

Corrections to each of these policy and technical shortcomings will drive down the clean hydrogen production / deployment costs and thereby help to fulfill the Biden Administration’s objective of achieving net-zero GHG economy by 2050. In so doing, the Section 45V credit will not only create a robust domestic clean hydrogen industry but also create additional good-paying jobs needed for the buildout of the clean energy infrastructure.

## CONCLUSION

The IBB appreciates the opportunity to submit to Treasury the preceding comments on the Proposed Rule setting forth the regulations for providing Section 45V credits for the production of clean hydrogen. The Boilermakers urge Treasury to address important policy and technical shortcomings with its Proposal that may impair the Biden Administration’s achieving clean hydrogen and climate change objectives. The correction of these shortcomings is essential in harnessing skilled labor in the buildout of the clean energy infrastructure needed for rapidly transitioning to a clean energy economy. If you should have any questions with regards to the IBB comments, please do not hesitate to contact me at the telephone number or e-mail address noted below.

Sincerely,

A handwritten signature in black ink that reads "Cecile M. Conroy". The signature is written in a cursive style with a large initial 'C'.

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