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Clean Hydrogen AB 209 grant program WSPA Comments

Please see attached.

Additional submitted attachment is included below.

Western States Petroleum Association

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Submitted via email to Jonah.Steinbuck@energy.ca.gov and web portal at https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=22-ERDD-03.

The Western States Petroleum Association (WSPA) appreciates the opportunity to provide the California Energy Commission (CEC) with comments on the proposed Clean Hydrogen grant program (22-ERDD-03). WSPA is a non-profit trade association that represents energy companies that explore for, produce, refine, transport and market petroleum products, natural gas, and other energy supplies in California and four other western states. Currently 152,000 men and women have careers in the oil and gas industry in California and 366,000 people have careers whose jobs depend on the industry. The industry in California contributes $152 billion every year in economic activity and directly contributes $21.6 billion in local, state, and federal tax revenue to support schools, roads, public safety, and other vital services.

Pursuant to AB 209, the California Legislature appropriated $100 million to the CEC to stimulate development of appropriate production, distribution and end-use of hydrogen to help achieve California's ambitious climate goals and complement over $9 billion in federal funding for the hydrogen industry. We support the overall goals of the program and urge the CEC to adopt funding guidelines that are neutral about production sources and technologies and agnostic about end uses.

However, in the December 1, 2022 workshop, the CEC staff presentation clearly indicated that the proposed grant funding would be focused on hydrogen production from electrolysis, and more specifically from electrolysis whose energy sources were exclusively from renewable energy. This narrow focus nearly guarantees that early development would depend on excess capacity in the renewable energy generation assets of the California grid, an assumption that, given recent history, introduces unnecessary risk and uncertainty into the hydrogen production supply chain. It further limits

additional production of hydrogen to a technology that is, by most estimates[1], at least triple the cost of hydrogen currently produced by Steam Methane Reforming (SMR).

WSPA strongly recommends that the CEC adopt an "all of the above" strategy for hydrogen production and end-use demand. Previous reports from the CEC[2], as well as the California Air Resources Board's (CARB) 2022 Scoping Plan Update[3], indicate that steam methane reforming, the use of biogas and biomethane, electrolysis using renewable electricity, and thermochemical conversion of biomass and waste feedstocks will *all* play a role in scaling up production for California energy systems. SMR technologies are already quite mature and operate at economies of scale that currently supply the hydrogen market. While increasing electrolysis from renewables – and lowering the cost of production with innovative technologies – is an important goal consistent with federal "Earthshot" efforts, near-term increases in production from all sources will be the most important driver of new demand and investment in new technologies at scale.

The CEC grant program should also remain end-use neutral. The staff presentation at the December workshop indicated a preference to prohibit offtakes from grant-funded sources by the oil refining sector. This makes little sense, since refining is currently the single largest demand for hydrogen and is a ready-made market for hydrogen and, combined with the Low Carbon Fuel Standard, could easily sustain the economies of scale needed to encourage further investment in hydrogen infrastructure contemplated by state and federal funding. The CEC itself noted in the workshop presentation that 97% of today's hydrogen capacity is reserved for the oil refining sector and that petroleum refining represents the majority of today's demand. Given this preponderance in use today, and the State's ongoing efforts to decarbonize our economy on a rapid timeline, projects that help reduce existing emissions and lower the carbon intensity of energy today would provide the very benefits envisioned by the funding program. The Clean Hydrogen grant program should align closely with the state's larger-scale efforts in order to complement other efforts to develop and grow the hydrogen economy.

Recent studies show that rapid growth in the technical potential for production and end use of hydrogen is substantial and promising. For example, the National Renewable Energy Laboratory (NREL) anticipates a "serviceable consumption potential" of 106 million metric tonnes of hydrogen per year, which is nearly

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[1] Justin Bracci, Adam Brandt, Sally M. Benson, Gireesh Shrimali and Sarah D. Saltzer, "Pathways to Carbon Neutrality in California: The Hydrogen Opportunity," Stanford Center for Carbon Storage and Stanford Carbon Removal Initiative, February 2022, last accessed at: https://sccs.stanford.edu/california-projects/pathways-carbon-neutrality-california.

[2] "Roadmap for the Deployment and Buildout of Renewable Hydrogen Production Plants in California", June 2020. https://www.energy.ca.gov/publications/2020/roadmap-deployment-and-buildout-renewable-hydrogen-production-plants-california.

[3] "2022 Scoping Plan for Achieving Carbon Neutrality", November 2022. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf.

11 times the current production and consumption indicated in the CEC's staff report.[4] In order to reach this potential, rapid growth in multiple end-uses must be incentivized, including: metals refining, synthetic hydrocarbons, ammonia, natural gas supplementation, industrial heating, etc. By limiting the end-uses of program-incentivized hydrogen, the program incorrectly assumes that these additional uses will be rapidly infused with new capital investment to accommodate the increased production of more expensive hydrogen (i.e., from electrolysis). This assumption does not comport with what is known about risk hedging in large-scale innovation and new investment in various industrial sectors.

WSPA applauds both the legislature's and the CEC's intentions to incentivize growth and investment in the hydrogen sector. And we fully support the state's goals to reduce the economy's carbon footprint while providing affordable, accessible, and cleaner energy for all Californians. We urge the CEC to take a comprehensive, long-term and all-of-the-above view of developing hydrogen production, transportation and consumption markets and infrastructure.

Sincerely,

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Western States Petroleum Association

[4] Ruth, Mark, Paige Jadun, Nicholas Gilroy, Elizabeth Connelly, Richard Boardman, A.J. Simon, Amgad Elgowainy, and Jarett Zuboy. 2020. "The Technical and Economic Potential of the H2@Scale Concept within the United States." Golden, CO: National Renewable Energy Laboratory. NREL/TP- 6A20-77610. https://www.nrel.gov/docs/fy21osti/77610.pdf..