

Air Products

Thank you for the opportunity to comment, please find our comment letter attached.

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August 25th, 2022

Rachel Assink, Air Quality Planner
Department of Ecology, Air Quality Program
PO Box 47600, Olympia WA 98504-7600

Comments submitted electronically

RE: Comments on Proposed Clean Fuels Program Rule

Dear Ms. Assink,

Air Products is pleased to provide comments in support of Washington State's Clean Fuels Program Rule (CFP). As we have seen in California's Low Carbon Fuel Standard (LCFS) and Oregon's CFP, these regulations are very successful, technology-neutral performance-based approaches that help to transition transportation fuels to cleaner, low-carbon alternatives. We believe that low-carbon hydrogen will play a key role in the energy transition and will contribute meaningfully to a program like the CFP. We strongly support Washington State's adoption and implementation of a robust CFP regulation.

Air Products is the only U.S.-based global industrial gas company and the world's largest hydrogen producer and supplier for use in numerous markets, including transportation. We are committed to rapidly scaling and decarbonizing global hydrogen supplies to support decarbonization efforts internationally. On July 25th, 2022, Air Products announced that it will spend or commit at least \$4 billion in additional new capital for the transition to clean energy over the next five years. In the two years preceding this announcement, Air Products had announced approximately \$11 billion in clean energy investments, including:

- A multi-billion dollar project which will be the world's largest green hydrogen project by far, requiring more electrolyzer capacity than has been deployed throughout the world to date. This project alone will serve to scale global electrolyzer production capacity and manufacturing, helping to bring down the costs of this important technology.
- An innovative \$1 billion net-zero carbon hydrogen production complex in Alberta, Canada, which achieves net-zero emissions through the combination of advanced hydrogen reforming technology, carbon capture and storage, and hydrogen-fueled electricity generation. Air Products recently won the Best Carbon Management Initiative Award for this project at the 2021 *Chemical Week* Sustainability Awards.
- A \$4.5 billion blue hydrogen clean energy complex in Louisiana, which represents

the company's largest investment ever in the United States and will sequester more than 5 million tons of carbon dioxide (CO₂) per year. This project will capture 95% of the facility's CO₂ emissions and produce blue hydrogen with near-zero carbon emissions.

- A green hydrogen facility based in Casa Grande, Arizona just outside Phoenix which is expected to be on-stream in 2023 and will produce zero-carbon, liquid hydrogen for the transportation market.
- A \$2 billion major expansion project with World Energy to develop North America's largest sustainable aviation fuel production facility in Paramount, California. The project will expand the site's total fuel capacity to 340 million gallons annually, and among other investments, includes an extension and capacity increase of Air Products' existing hydrogen pipeline network in Southern California. The project is scheduled to be onstream in 2025.

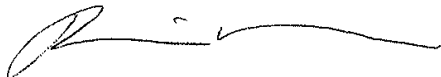
As mentioned above, Air Products strongly support the Department of Ecology's (Ecology) advancement of this CFP. We offer the following comments as ways to improve Ecology's proposal and to further the transition to low carbon fuels.

- We appreciate the inclusion of both a hydrogen refueling infrastructure (HRI) crediting mechanism in support of light-, medium, and heavy-duty vehicle adoption (WAC 173-424-560) and an advanced crediting mechanism (WAC 173-424-550). We understand that the advanced crediting mechanism only applies to specified public fleets and that we as a hydrogen producer/distributor are not directly eligible. However, this section of the draft regulation only refers to electrifying or "electrification" of various fleets. Please clarify that both battery-electric vehicles and fuel-cell electric vehicles qualify as eligible. There should be opportunities afforded both zero-emission vehicle technologies.
- For the HRI crediting mechanism in WAC 173-424-560, we request that Ecology consider a higher Maximum Station Capacity of 4,800 kg/day vs. the 2,300 kg/day proposed for medium/heavy-duty vehicles and 1,200 kg/day vs. the 500 kg/day proposed for light-duty stations to be consistent with the California market and current light-duty threshold in the California LCFS regulation. In California, we have found that enabling larger stations ensures that the economics of each station will be more self-sustaining for station operators and fuel cell vehicle owners will be provided greater fuel availability and station reliability.
- WAC-173-424-560 (c)(i) - We believe that the proposed HRI credit cap at 2.5% of the previous quarter deficits is adequate for light-duty vehicle credits (similar to California), but we believe that the program should start with a cap of 5% of the previous quarter's deficits to accommodate both light-duty and medium/heavy-duty vehicles.

- We note that in Table 6 “Washington Carbon Intensity Lookup Fuel Pathway Table” there are no default pathway values for liquid hydrogen delivery and that only compressed gas pathways are available. In many cases, delivery of liquid hydrogen is superior to that of gaseous hydrogen both economically and operationally due to the increased quantity of hydrogen that can be transported by truck and stored on-site at hydrogen refueling stations. It is important that Washington State provide a hydrogen liquefaction Lookup Table value that can be used in conjunction with any of the hydrogen Lookup Table values listed in Table 6.
- WAC 173-424-130 (1) indicates that a small amount of fuel provided to the state would be exempt from regulation provided the aggregate quantity supplied in Washington in a year is less than 360,000 “gallons”. Please clarify that this exemption is intended to be gallons of liquid fuel equivalent so that it could apply to both liquid fuels and gaseous fuels like hydrogen.

Air Products appreciates the opportunity to provide this feedback and we would be happy to meet with Ecology to discuss further or work through draft language. Please feel free to contact me by phone (916-860-9378) or email hellermt@airproducts.com.

Respectfully,

A handwritten signature in black ink, appearing to read 'Miles Heller', with a long horizontal flourish extending to the right.

Miles Heller
Director, Greenhouse Gas Government Policy