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SUBMITTED ELECTRONICALLY

February 20, 2024

Leanne Randolph
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on the California Air Resources Board's Proposed Amendment Order to the Low Carbon Fuel Standard (LCFS)

Dear Chairwoman Randolph and Honorable Board Members:

Marathon Petroleum Company LP (MPC) appreciates the opportunity to provide comments to the California Air Resources Board's Proposed Amendment Order to the LCFS.

MPC is a wholly owned subsidiary of Marathon Petroleum Corporation, a leading, integrated, downstream energy company headquartered in Findlay, Ohio. MPC is a supplier of fuels in the State of California and MPC, both directly and through its subsidiaries, is investing in low-carbon solutions to meet the energy demands of today and into the future. MPC's commitment to low-carbon solutions is reflected in the successful conversions of its Dickinson, North Dakota and Martinez, California petroleum refineries into renewable fuel production facilities. Combined, these two operating facilities are expected to produce up to 2.5 million gallons per day of renewable transportation fuel from renewable feedstock sources with an aggregate life-cycle carbon intensity that is approximately 60 percent less than petroleum-based fuels.

The proposed amendments include several changes that MPC has provided comments to in previous workshops. MPC is supportive of several of the proposed amendments, and comments included here will focus on recommendations MPC believes are vital to enhancing the LCFS's ability to provide a strong stable signal and incentivize new low carbon technology use in the transportation fuel sector.

MPC's recommendations on the proposed amendment order are listed below. Additional discussion and support for these recommendations are provided in the subsequent sections.

- MPC recommends CARB recognize the carbon-reducing practices implemented by farmers in its Feedstock Sustainability requirement if it intends to implement a costly and complex Feedstock Sustainability program.
- MPC recommends CARB support the use of renewable natural gas as a feedstock for hydrogen production at a facility.

- MPC recommends CARB reconsider its proposal to add Attestation Letter requirements to the Specified Source Feedstock supply chain.
- MPC recommends CARB make the position holders of jet fuel in the tanks at an airport the First Fuel Reporting Entities.
- MPC recommends CARB not sunset the Refinery Investment Credit provision in 2040 and allow for additional process improvement projects after 2025.
- MPC recommends CARB address the issues MPC identified in CA GREET 4.0 and associated Tier 1 calculators.

The Feedstock Sustainability requirements stop short of recognizing emission reductions farmers are making today while adding costs and additional complexity to a complex feedstock supply chain.

MPC does not support a cap on crop-based feedstocks[1] and appreciates that the proposed amendments do not establish a cap. MPC has stated previously that a cap on feedstocks will slow progress of meaningful new farming practices. These practices, shown to enhance soil fertility, reduce fertilizer use, and increase soil organic carbon levels[2], can result in lower emissions within the transportation sector.

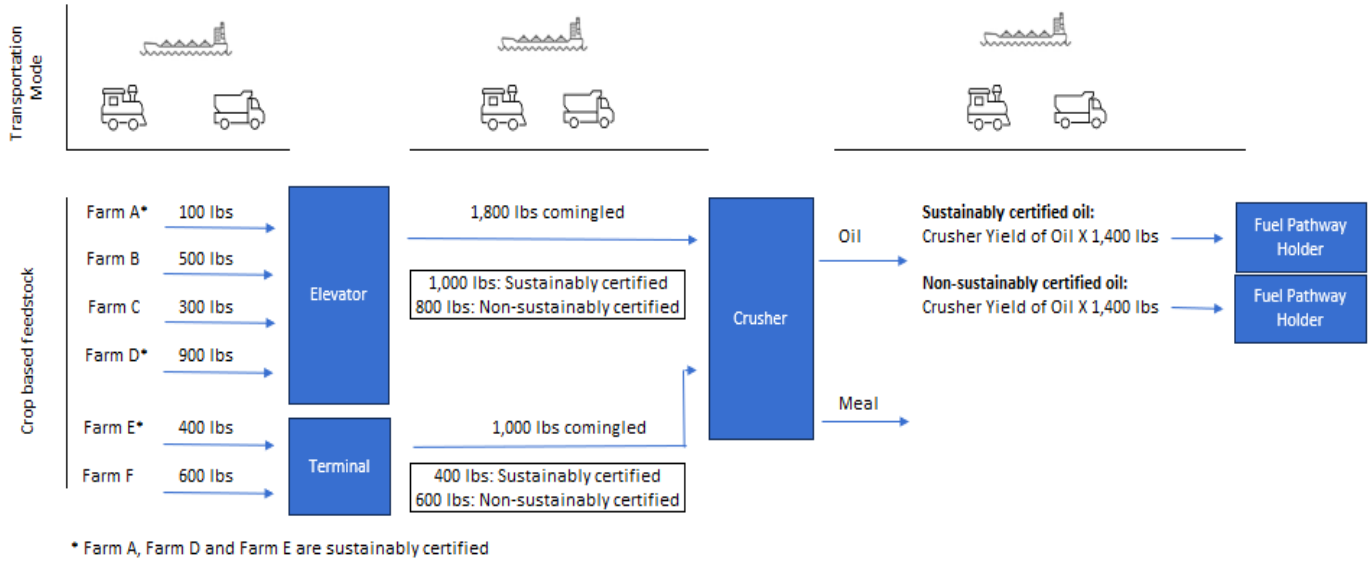
As an alternative to capping and restricting the use of crop-based feedstocks in the LCFS, CARB has proposed approving third-party programs to certify the sustainability of crop-based feedstocks used to produce transportation fuel that generates LCFS credits. This feedstock sustainability concept[3] includes smart agricultural practices that farmers are utilizing today but does not include a system for recognizing the carbon intensity reduction from such agricultural practices in the renewable fuels CI score. As discussed in the next paragraphs, a third-party certification program will add burden and costs, especially for farmers. Certifying certain crop-based feedstocks as having a lower CI score can incentivize smart agricultural practices and help offset costs of the program.

As a producer of renewable diesel that relies on the crop-based feedstock supply chain within the U.S. and abroad, MPC is concerned about the proposal to add a certification process to the very complex U.S. crop-based feedstock supply chain as the process will increase costs to produce renewable diesel and potentially trigger feedstock supply disruptions, limiting renewable fuel production. The crop-based feedstock supply chain connects small family farms and corporate farms to grain elevators, transporters, and crushers to fuel producers and suppliers of renewable fuels. Most grain used to produce crop-based feedstocks are comingled several times throughout the supply chain. For example, after soybeans are harvested and dried, they are transported and comingled with other harvested soybeans, at grain terminals, elevators, and processing facilities for crushing[4]. Transportation methods will vary throughout the feedstock supply chain and includes rail, ship/barge, and trucks. Because the soybeans from multiple farms are commingled, any process developed to track the amount of sustainably certified soybeans used by a fuel pathway holder must incorporate a material balance approach. Only a material balance approach will make it possible to track the amount and sustainability characteristics of such crops throughout the supply chain. Additionally, a material balance approach will prevent creating a system that requires segregation, leading to unnecessary

[1] MPC Comments: CARB 7.7.22 Workshop
[2] E.g., Koudahe et al. 2022. Critical review of the impact of cover crops on soil properties
[3] CARB Appendix E Purpose and Rationale: 2024 rulemaking p80
[4] U.S. Soy Export Council International Buyers Guide

transportation emissions and inefficiencies adding cost to the production of renewable diesel and causing feedstock supply disruptions.

Simplified depiction of a material balance approach applied to the crop-based feedstock supply chain



As noted, the sustainability certification system does not go far enough to distinguish the carbon-reducing practices implemented by some farmers. This system merely acknowledges whether the feedstock can be used in a LCFS fuel pathway. Rather, a sustainability program should acknowledge when a farmer has implemented techniques to reduce the carbon emissions from crop production, which in turn is used to lower the carbon intensity of the renewable fuel. If CARB implements the third-party certification program, MPC recommends including provisions that would allow a renewable fuel producer to take carbon intensity reduction credit for crop-based feedstocks grown using smart agricultural practices.

Renewable natural gas is needed to decarbonize the industrial sector, any additional limitations will slow the use of renewable natural gas in the industrial sector.

CARB recognizes renewable natural gas as a low carbon intensity fuel in its use as a feedstock to hydrogen production. CARB allows the use of book-and-claim accounting to connect the environmental attributes of renewable natural gas produced at one location to the use of natural gas in hydrogen production at another location. Book-and-claim accounting is vital to renewable natural gas production and growth as many renewable natural gas facilities are not located in the same geographic regions where the hydrogen facilities are located. Because book-and-claim accounting has been available, renewable natural gas production facilities continue to be built throughout the country and have not been isolated to locations near hydrogen production facilities, California or adjacent states. If CARB were to limit the ability of renewable natural gas producers to use book-and-claim accounting, CARB would slow the growth of renewable natural gas and its use in industrial facilities producing fuels supplied to the California market. Marathon thus supports the continued use of book-and-claim accounting.

Adding attestation requirements to Specified Source Feedstocks is unnecessary.

MPC opposes the attestation requirement for specified source feedstocks. The attestation requirement would add significant and unnecessary verification workload to the annual verification process, as the chain-of-custody evidence is already reviewed and verified under the current regulatory provisions.

The specified source feedstock supply chain includes multiple entities, such as points of origin, collectors, aggregators, storage terminals and at times pre-treatment facilities. Each of these entities must provide an attestation stating a feedstock has not been altered from the pathway application. This requirement is problematic. A downstream entity within the supply chain likely lacks the knowledge of how a previous entity handled the feedstock, including whether it has undergone additional processing.

If CARB retains the attestation requirement, then CARB must do two things. First, CARB must narrow the attestation to information about the feedstock while the feedstock was in that attesting entity's control. An entity representative should not be required to attest to information of which he has no knowledge. Second, CARB must explain the energy systems that are included in CARB's emission factors. The existing default emission factor documentation[5] does not explain to entities within the supply chain what is included in CARB's default values for feedstock collection, processing, and handling. Any activities not included in the default emission factors would be considered "additional processing" and thus should be identified in the attestation. Unless each entity understands the activities considered to be "additional processing," entities may not submit accurate attestations.

The jet fuel importer or producer should not be the First Fuel Reporting Entity.

MPC opposes assigning the producer or importer of jet fuel as the First Fuel Reporting Entity and strongly recommends the position holder of the fuel in the tanks at an airport be the First Fuel Reporting Entity. This would allow those closest to the use of the fuel, the airports, airlines, and position holders, to work together and determine the most appropriate accounting and tracking method for reporting fuels with an obligation.

CARB's proposal identifies that fossil jet fuel after 2028 will no longer be exempted from a compliance obligation unless it is used for interstate or international flights. To distinguish exempt jet fuel from obligated jet fuel, the proposed amendments require the First Fuel Reporting Entity to designate the obligated volumes of jet fuel as "Fossil Jet Fuel used for Intrastate Flight." The jet fuel producer or importer, however, does not know whether its volume of jet fuel is used for intrastate flights or is used for interstate and international flights. Unlike gasoline or diesel, which can be tracked to determine whether it is sold in state or out of state, jet fuel is delivered to airports, commingled within storage tanks, and used to fuel all flights at the airport. The fuel producer cannot track its jet fuel into the airplane and determine whether the fuel was used for intrastate, interstate, or international flights.

As additional explanation, the jet fuel logistics within California includes the transportation of jet fuel through pipelines and trucks to airport storage facilities. Jet fuel traveling on the pipeline is often commingled in breakout tankage along the pipeline before reaching its final destination at airport storage facilities. These airport storage facilities may be owned by one or more airlines. The jet fuel delivered into the storage facilities

[5] CA GREET 4.0

is commingled and may be used by any one of the airlines, who loads the fuel onto any one of many aircraft departing from an airport. Once jet fuel is placed in these airport storage facilities, only the airlines will know if the fuel was used for intrastate, interstate, or international flight. Placing that burden on the producer, who has no knowledge of how the fuel is ultimately used, will make compliance with the proposed regulation impractical, leading to the potential for inaccurate reporting. The position holder in the airport storage tanks is the appropriate party to report obligated intrastate jet fuel because it is closest to the fuel and its use.

The Refinery Investment Credit Provision is critical to incentivize petroleum refineries to reduce emissions.

Refineries are comprised of many complex, large scale industrial pieces of equipment that are not easily retrofit or optimized to reduce emissions from the production of transportation fuels. Many times, energy efficiency and emission reduction projects within refineries require large amounts of capital. The LCFS incentive provides additional support to move these projects forward. These same projects may provide additional benefits to the State by reducing nitrogen oxide (NOx) and other combustion emissions in largely disadvantaged communities, maintaining Union jobs, and supporting the local economies surrounding the refineries.

The proposed amendments sunset the Refinery Investment Credit Protocol in 2040. MPC opposes setting a date for the provision to end as projects that qualify for crediting will continue to provide benefits to the state long past 2040. Additionally, MPC recommends CARB remove the requirement that applications for process improvement projects under §95489(e)(3)(H)[6] be submitted on or before December 31, 2025, as it does little to incentivize innovation and reduce emissions within a petroleum refinery.

Recommendations on the proposed CA-GREET 4.0 and associated Tier 1 calculators.

- The process energy natural gas emission factor for the Tier 1 Simplified Calculator Hydroprocessed Ester and Fatty Acid Fuels[7] found in Tab "CA-GREET 4.0", cell E23 of 75,496 gCO_2e/MMBtu NG, LHV is greater than the same value calculated in CA-GREET 4.0. Summing the emissions found in CA-GREET 4.0, Tab "NG" for NG Extraction, NG Processing, NG Transport 680 miles pipeline, and the average of emissions for a Large Boiler and Small Boiler results in a NG emission factor of 74,788 gCO_2e/MMBtu. MPC recommends CARB review the process energy natural gas emission factor value found in the Tier 1 Simplified Calculator to ensure it is correct, if the value is correct MPC requests CARB detail the method it used to derive the value as MPC cannot replicate it using CA GREET4.0.

- The emission factor in CARB's proposed Tier 1 Simplified Calculator for Hydroprocessed Ester and Fatty Acid Fuels for Standard Value, US/Canadian Feedstocks, Animal Fat found on Tab "CA-GREET 4.0" cell E14 of 286 gCO_2e/lb includes a Residual Oil share of process fuels of 28.6%[8]. A 2022 publication in ACS[9] identified that in the U.S., rendering facilities have "phased out residual oils and replaced them with natural gas" resulting in substantial emission reductions. MPC

[6] CARB LCFS Proposed Changes, 45-day package
[7] Tier 1 Simplified Calculator Hydroprocessed Ester and Fatty Acid Fuels
[8] CA GREET 4.0 Tab "Bio oil" cell C64
[9] XU et all. ACS Publications 2022

recommends CARB use this work and decrease the Standard Value for US/Canadian Feedstocks, Animal Fat to capture the transition of U.S. rendering facilities away from Residual Oil to natural gas.

- The emission factor in CARB's proposed Tier 1 Simplified Calculator for Hydroprocessed Ester and Fatty Acid Fuels for Land Transport, Barge found on Tab "CA-GREET 4.0" cell E17 of 0.0212 gCO2e/lb-mile has doubled in comparison to the same emission factor found in CA-GREET 3.0. It appears CARB has accounted for backhaul emissions from the use of barges to transport renewable feedstocks and products. Barges themselves do not generate a significant amount of emissions as they do not have main engines that propel them through the water. Barges are either tethered to a tugboat or pushed by a tugboat when transporting cargo[10]. The 2022 Commercial Harbor Craft Regulation (CHC) includes a requirement that both tugboats and barges utilize renewable diesel while operating in California waters, or approximately 24 nautical miles from the California coastline. MPC recommends CARB discount the barge emission factor for the biogenic portion of CO_2 that is produced from the use of renewable diesel in CHC transporting renewable feedstocks and products within California waters. If CARB is not able to account for this in the Tier 1 Simplified calculators, MPC recommends CARB allow pathway applicants provide documentation that identifies the barge and tug utilized to transport renewable feedstocks within California waters that utilized renewable diesel.

Thank you for the opportunity to comment on these subjects. If you have any questions about anything discussed here, feel free to reach out to me at bcmcdonald@marathonpetroleum.com.

Sincerely,

Brian McDonald
Marathon Petroleum Company LP | West Coast Regulatory Affairs Advisor

Cc: Rajinder Sahota, Deputy Executive Officer, Climate Change and Research
Matthew Botill, Division Chief, Industrial Strategies

[10] CARB Commercial Harbor Craft Regulation ISOR