UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended **December 31, 2022**

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from __________ to __________

Commission file number **001-35054**

Marathon Petroleum Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

27-1284632
(I.R.S. Employer Identification No.)

539 South Main Street, Findlay, OH 45840-3229
(Address of principal executive offices) (Zip code)

(419) 422-2121
(Registrant's telephone number, including area code)

Securities Registered pursuant to Section 12(b) of the Act

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value $.01	MPC	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large Accelerated Filer ☑ Accelerated Filer ☐ Non-accelerated Filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The aggregate market value of Common Stock held by non-affiliates as of June 30, 2022 was approximately $42.1 billion. This amount is based on the closing price of the registrant's Common Stock on the New York Stock Exchange on June 30, 2022. Shares of Common Stock held by executive officers and directors of the registrant are not included in the computation. The registrant, solely for the purpose of this required presentation, has deemed its directors and executive officers to be affiliates.

There were 445,546,907 shares of Marathon Petroleum Corporation Common Stock outstanding as of February 16, 2023.

Documents Incorporated By Reference

Portions of the registrant's proxy statement relating to its 2023 Annual Meeting of Shareholders, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, are incorporated by reference to the extent set forth in Part III, Items 10-14 of this

Report.

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Unless otherwise stated or the context otherwise indicates, all references in this Annual Report on Form 10-K to “MPC,” “us,” “our,” “we” or the “Company” mean Marathon Petroleum Corporation and its consolidated subsidiaries.

Glossary of Terms

Throughout this report, the following company or industry specific terms and abbreviations are used:

ANS	Alaska North Slope crude oil, an oil index benchmark price
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
ATB	Articulated tug barges
barrel	One stock tank barrel, or 42 U.S. gallons liquid volume, used in reference to crude oil or other liquid hydrocarbons.
CARB	California Air Resources Board
CARBOB	California Reformulated Gasoline Blendstock for Oxygenate Blending
CBOB	Conventional Blending for Oxygenate Blending
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization (a non-GAAP financial measure)
EPA	U.S. Environmental Protection Agency
ESG	Environmental, social and governance
GAAP	Accounting principles generally accepted in the United States
GHG	Greenhouse gas
LCFS	Low Carbon Fuel Standard
LCM	Lower of cost or market
LIFO	Last in, first out
LLS	Louisiana Light Sweet crude oil, an oil index benchmark price
mbbls	Thousands of barrels
mbpd	Thousand barrels per day
mbpcd	Thousand barrels per calendar day
MEH	Magellan East Houston crude oil, an oil index benchmark price
MMcf/d	One million cubic feet of natural gas per day
MMBtu	One million British thermal units
NGL	Natural gas liquids, such as ethane, propane, butanes and natural gasoline
NYMEX	New York Mercantile Exchange
NYSE	New York Stock Exchange
OSHA	U. S. Occupational Safety and Health Administration
OTC	Over-the-Counter
PP&E	Property, plant and equipment
RFS2	Revised Renewable Fuel Standard program, as required by the Energy Independence and Security Act of 2007
RIN	Renewable Identification Number
SEC	U.S. Securities and Exchange Commission
SOFR	Secured overnight financing rate
STAR	South Texas Asset Repositioning
ULSD	Ultra-low sulfur diesel
USGC	U.S. Gulf Coast
UST	Underground storage tank
VIE	Variable interest entity
VPP	Voluntary Protection Program
WTI	West Texas Intermediate crude oil, an oil index benchmark price

Disclosures Regarding Forward-Looking Statements

This Annual Report on Form 10-K, particularly Item 1. Business, Item 1A. Risk Factors, Item 3. Legal Proceedings, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 7A. Quantitative and Qualitative Disclosures about Market Risk, includes forward-looking statements that are subject to risks, contingencies or uncertainties. You can identify forward-looking statements by words such as "anticipate," "believe," "commitment," "could," "design," "estimate," "expect," "forecast," "goal," "guidance," "intend," "may," "objective," "opportunity," "outlook," "plan," "policy," "position," "potential," "predict," "priority," "project," "prospective," "pursue," "seek," "should," "strategy," "target," "will," "would" or other similar expressions that convey the uncertainty of future events or outcomes.

Forward-looking statements include, among other things, statements regarding:

- future financial and operating results;
- ESG goals and targets, including those related to GHG emissions, diversity and inclusion and ESG reporting;
- our plans to achieve our ESG goals and targets and to monitor and report progress thereon;
- future levels of capital, environmental or maintenance expenditures, general and administrative and other expenses;
- expected savings from the restructuring or reorganization of business components;
- the success or timing of completion of ongoing or anticipated maintenance projects or transactions;
- business strategies, growth opportunities and expected investments;
- consumer demand for refined products, natural gas, renewables and NGLs;
- the timing, amount and form of future capital return transactions at MPC or MPLX; and
- the anticipated effects of actions of third parties such as competitors, activist investors, federal, foreign, state or local regulatory authorities, or plaintiffs in litigation.

Our forward-looking statements are not guarantees of future performance, and you should not rely unduly on them, as they involve risks, uncertainties and assumptions that we cannot predict. Material differences between actual results and any future performance suggested in our forward-looking statements could result from a variety of factors, including the following:

- general economic, political or regulatory developments, including inflation, changes in governmental policies relating to refined petroleum products, crude oil, natural gas, NGLs or renewables, or taxation;
- further impairments;
- the regional, national and worldwide availability and pricing of refined products, crude oil, natural gas, renewables, NGLs and other feedstocks;
- disruptions in credit markets or changes to credit ratings;
- the adequacy of capital resources and liquidity, including availability, timing and amounts of free cash flow necessary to execute business plans and to effect any share repurchases or to maintain or increase the dividend;
- the potential effects of judicial or other proceedings on the business, financial condition, results of operations and cash flows;
- volatility in or degradation of general economic, market, industry or business conditions as a result of the COVID-19 pandemic, other infectious disease outbreaks, natural hazards, extreme weather events, the military conflict between Russia and Ukraine, other conflicts, inflation, rising interest rates or otherwise;
- compliance with federal and state environmental, economic, health and safety, energy and other policies and regulations or enforcement actions initiated thereunder;
- adverse market conditions or other risks affecting MPLX;
- refining industry overcapacity or under capacity;
- changes in producer customers' drilling plans or in volumes of throughput of crude oil, natural gas, NGLs, refined products, other hydrocarbon-based products or renewables;
- non-payment or non-performance by our customers;
- changes in the cost or availability of third-party vessels, pipelines, railcars and other means of transportation for crude oil, natural gas, NGLs, feedstocks, refined products and renewables;
- the price, availability and acceptance of alternative fuels and alternative-fuel vehicles and laws mandating such fuels or vehicles;
- political and economic conditions in nations that consume refined products, natural gas, renewables and NGLs, including the United States and Mexico, and in crude oil producing regions, including the Middle East, Russia, Africa, Canada and South America;

- actions taken by our competitors, including pricing adjustments, the expansion and retirement of refining capacity and the expansion and retirement of pipeline capacity, processing, fractionation and treating facilities in response to market conditions;
- completion of pipeline projects within the United States;
- changes in fuel and utility costs for our facilities;
- accidents or other unscheduled shutdowns affecting our refineries, machinery, pipelines, processing, fractionation and treating facilities or equipment, means of transportation, or those of our suppliers or customers;
- acts of war, terrorism or civil unrest that could impair our ability to produce refined products, receive feedstocks or to gather, process, fractionate or transport crude oil, natural gas, NGLs, refined products or renewables;
- political pressure and influence of environmental groups and other stakeholders upon policies and decisions related to the production, gathering, refining, processing, fractionation, transportation and marketing of crude oil or other feedstocks, refined products, natural gas, NGLs or other hydrocarbon-based products or renewables;
- labor and material shortages;
- our ability to successfully achieve our ESG goals and targets within the expected timeframe, if at all;
- the costs, disruption and diversion of management's attention associated with campaigns commenced by activist investors;
- personnel changes; and
- the other factors described in Item 1A. Risk Factors.

We undertake no obligation to update any forward-looking statements except to the extent required by applicable law.

PART I

Item 1. Business

OVERVIEW

Marathon Petroleum Corporation ("MPC") has 135 years of history in the energy business, and is a leading, integrated, downstream energy company. We operate the nation's largest refining system with approximately 2.9 million barrels per day of crude oil refining capacity and believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers in the United States. We distribute our refined products through one of the largest terminal operations in the United States and one of the largest private domestic fleets of inland petroleum product barges. In addition, our integrated midstream energy asset network links producers of natural gas and NGLs from some of the largest supply basins in the United States to domestic and international markets.

Our operations consist of two reportable operating segments: Refining & Marketing and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks, including renewable feedstocks, at our refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States, purchases refined products and ethanol for resale and distributes refined products, including renewable diesel, through transportation, storage, distribution and marketing services provided largely by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market, to independent entrepreneurs who operate primarily Marathon® branded outlets and through long-term supply contracts with direct dealers who operate locations mainly under the ARCO® brand.
- Midstream – transports, stores, distributes and markets crude oil and refined products principally for the Refining & Marketing segment via refining logistics assets, pipelines, terminals, towboats and barges; gathers, processes and transports natural gas; and gathers, transports, fractionates, stores and markets NGLs. The Midstream segment primarily reflects the results of MPLX LP ("MPLX"). MPLX is a diversified, large-cap master limited partnership ("MLP") formed in 2012 that owns and operates midstream energy infrastructure and logistics assets and provides fuels distribution services. As of December 31, 2022, we owned the general partner of MPLX and approximately 65 percent of the outstanding MPLX common units.

Corporate History and Structure

MPC was incorporated in Delaware on November 9, 2009 in connection with an internal restructuring of Marathon Oil Corporation ("Marathon Oil"). On May 25, 2011, the Marathon Oil board of directors approved the spinoff of its Refining, Marketing & Transportation Business into an independent, publicly traded company, MPC, through the distribution of MPC common stock to the stockholders of Marathon Oil on June 30, 2011. Our common stock trades on the NYSE under the ticker symbol "MPC."

On October 1, 2018, we acquired Andeavor. Andeavor shareholders received in the aggregate approximately 239.8 million shares of MPC common stock valued at $19.8 billion and $3.5 billion in cash. Andeavor was a highly integrated marketing, logistics and refining company operating primarily in the Western and Mid-Continent United States. Our acquisition of Andeavor in 2018 substantially increased our geographic diversification and the scale of our assets, which provides increased opportunities to optimize our system.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven, Inc. ("7-Eleven") for cash proceeds of $21.38 billion ($17.22 billion after cash-tax payments). This transaction resulted in a pretax gain of $11.68 billion ($8.02 billion after income taxes), after deducting the book value of the net assets and certain other adjustments.

OUR OPERATIONS

Refining & Marketing

Refineries

We currently own and operate refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States with an aggregate crude oil refining capacity of 2,898 mbpcd. During 2022, our refineries processed 2,761 mbpd of crude oil and 190 mbpd of other charge and blendstocks. During 2021, our refineries processed 2,621 mbpd of crude oil and 178 mbpd of other charge and blendstocks.

Our refineries include crude oil atmospheric and vacuum distillation, fluid catalytic cracking, hydrocracking, catalytic reforming, coking, desulfurization and sulfur recovery units. The refineries process a wide variety of condensate and light and heavy crude oils purchased from various domestic and foreign suppliers. We produce numerous refined products, ranging from transportation fuels, such as reformulated gasolines, blend-grade gasolines intended for blending with ethanol and ULSD fuel, to heavy fuel oil and asphalt. Additionally, we manufacture NGLs and petrochemicals and propane. See the Refined Product Marketing section for further information about the products we produce.

Our refineries are integrated with each other via pipelines, terminals and barges to maximize operating efficiency. The transportation links that connect our refineries allow the movement of intermediate products between refineries to optimize operations, produce higher margin products and efficiently utilize our processing capacity. Also, shipping intermediate products between facilities during partial refinery shutdowns allows us to utilize processing capacity that is not directly affected by the shutdown work.

Following is a description of each of our refineries and their capacity by region.

Gulf Coast Region (1,189 mbpcd)

Garyville, Louisiana Refinery (596 mbpcd)

Our Garyville refinery, which is one of the largest refineries in the U.S., is located along the Mississippi River in southeastern Louisiana between New Orleans, Louisiana and Baton Rouge, Louisiana. The Garyville refinery is configured to process a wide variety of crude oils into gasoline, distillates, NGLs and petrochemicals, heavy fuel oil, asphalt and propane. The refinery has access to the export market and multiple options to sell refined products. Our Garyville refinery has earned designation as an OSHA VPP Star site.

Galveston Bay, Texas City, Texas Refinery (593 mbpcd)

Our Galveston Bay refinery is a combination of our former Texas City refinery and Galveston Bay refinery. The refinery is located on the Texas Gulf Coast southeast of Houston, Texas and can process a wide variety of crude oils into gasoline, distillates, NGLs and petrochemicals, heavy fuel oil and propane. The refinery has access to the export market and multiple options to sell refined products. Our cogeneration facility, which supplies the Galveston Bay refinery, currently has 1,055 megawatts of electrical production capacity and can produce 4.3 million pounds of steam per hour. Approximately 48 percent of the power generated in 2022 was used at the refinery, with the remaining electricity being sold into the electricity grid.

Mid-Continent Region (1,159 mbpcd)

Catlettsburg, Kentucky Refinery (291 mbpcd)

Our Catlettsburg refinery is located in northeastern Kentucky on the western bank of the Big Sandy River, near the confluence with the Ohio River. The Catlettsburg refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, NGLs and petrochemicals, propane and heavy fuel oil. Our Catlettsburg refinery has earned designation as an OSHA VPP Star site.

Robinson, Illinois Refinery (253 mbpcd)

Our Robinson refinery is located in southeastern Illinois. The Robinson refinery processes sweet and sour crude oils into gasoline, distillates, NGLs and petrochemicals, propane and heavy fuel oil. The Robinson refinery has earned designation as an OSHA VPP Star site.

Detroit, Michigan Refinery (140 mbpcd)

Our Detroit refinery is located in southwest Detroit. It is the only petroleum refinery currently operating in Michigan. The Detroit refinery processes sweet and heavy sour crude oils into gasoline, distillates, asphalt, NGLs and petrochemicals, propane and heavy fuel oil. Our Detroit refinery has earned designation as an OSHA VPP Star site.

El Paso, Texas Refinery (133 mbpcd)

Our El Paso refinery is located east of downtown El Paso. The El Paso refinery processes sweet and sour crudes into gasoline, distillates, heavy fuel oil, propane, asphalt and NGLs and petrochemicals.

St. Paul Park, Minnesota Refinery (105 mbpcd)

Our St. Paul Park refinery is located along the Mississippi River southeast of St. Paul Park. The St. Paul Park refinery processes sweet and heavy sour crude and manufactures gasoline, distillates, asphalt, propane, heavy fuel oil and NGLs and petrochemicals.

Canton, Ohio Refinery (100 mbpcd)

Our Canton refinery is located south of Cleveland, Ohio. The Canton refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, propane, NGLs and petrochemicals and heavy fuel oil. The Canton refinery has earned designation as an OSHA VPP Star site.

Mandan, North Dakota Refinery (71 mbpcd)

Our Mandan refinery is located outside of Bismarck, North Dakota. The Mandan refinery processes primarily sweet domestic crude oil from North Dakota and manufactures gasoline, distillates, propane, heavy fuel oil and NGLs and petrochemicals.

Salt Lake City, Utah Refinery (66 mbpcd)

Our Salt Lake City refinery is the largest in Utah and is located north of downtown Salt Lake City. The Salt Lake City refinery processes crude oil from Utah, Colorado, Wyoming and Canada to manufacture gasoline, distillates, heavy fuel oil, NGLs and petrochemicals and propane.

West Coast Region (550 mbpcd*)*

Los Angeles, California Refinery (363 mbpcd)

Our Los Angeles refinery is located in Los Angeles County, near the Los Angeles Harbor. The Los Angeles refinery is the largest refinery on the West Coast and is a major producer of cleaner burning CARB fuels. The Los Angeles refinery processes heavy crude from California's San Joaquin Valley and Los Angeles Basin, as well as crudes from the Alaska North Slope, South America, West Africa and other international sources, and manufactures CARB gasoline and CARB diesel fuel, as well as conventional gasoline, distillates, NGLs and petrochemicals, heavy fuel oil and propane.

Anacortes, Washington Refinery (119 mbpcd)

Our Anacortes refinery is located north of Seattle on Puget Sound. The Anacortes refinery processes Canadian crude, domestic crude from North Dakota and the Alaska North Slope and international crudes to manufacture gasoline, distillates, heavy fuel oil, propane and NGLs and petrochemicals.

Kenai, Alaska Refinery (68 mbpcd)

Our Kenai refinery is located on the Cook Inlet, southwest of Anchorage. The Kenai refinery processes mainly Alaska domestic crude, domestic crude from North Dakota, along with limited international crude and manufactures distillates, gasoline, heavy fuel oil, asphalt, propane and NGLs and petrochemicals.

Planned maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery.

Refined Product Yields

The following table sets forth our refinery production by product group for each of the last three years.

(mbpd)	2022	2021	2020
Gasoline[a]	1,494	1,446	1,314
Distillates[a]	1,079	965	905
NGLs and petrochemicals[a]	178	250	244
Asphalt	89	91	81
Propane	70	52	51
Heavy fuel oil	73	31	28
Total	2,983	2,835	2,623

[a] Product yields include renewable production.

Crude Oil Supply

We obtain the crude oil we refine through negotiated term contracts and purchases or exchanges on the spot market. Our term contracts generally have market-related pricing provisions. The following table provides information on our sources of crude oil for each of the last three years. The crude oil sourced outside of North America was acquired from various foreign national oil companies, production companies and trading companies.

(mbpd)	2022	2021	2020
United States	1,895	1,890	1,650
Canada	539	445	442
Middle East and other international	327	286	326
Total	2,761	2,621	2,418

Our refineries receive crude oil and other feedstocks and distribute our refined products through a variety of channels, including pipelines, trucks, railcars, ships and barges.

Renewable Fuels

The Dickinson, North Dakota, renewable fuels facility began operations at the end of 2020 and reached full design operating capacity in the second quarter of 2021. The facility has the capacity to produce 184 million gallons per year of renewable diesel from corn oil, soybean oil, fats and greases. The produced renewable diesel generates federal RINs and LCFS credits when sold in California or similar markets. These instruments are used to help meet our Renewable Fuel Standard and LCFS compliance obligations as a petroleum fuel producer.

On September 21, 2022, MPC closed on the formation of the Martinez Renewable Fuels joint venture (the “Martinez Renewable joint venture”), a partnership structured as a 50/50 joint venture with Neste Corporation (“Neste”). Converting the Martinez facility from refining petroleum to manufacturing renewable fuels signals our strong commitment to producing a substantial level of lower carbon-intensity fuels in California. The facility is expected to ramp up to producing 730 million gallons per year by the end of 2023, with pretreatment capabilities coming online in 2023.

Our wholly owned subsidiary, Virent Inc. (“Virent”), operates an advanced biofuels facility in Madison, Wisconsin at which it is working to commercialize a process for converting biobased feedstocks into renewable fuels and chemicals. During 2022, Virent continued to advance its technology to commercialization with demonstration activities in both the fuels and chemicals industries, including a demonstration flight with Gulfstream in a G650 aircraft in which one engine used 100 percent sustainable aviation fuel (“SAF”) that included Virent’s synthesized aromatic kerosene as a blending component to provide a 100 percent drop-in SAF that was fully compatible with today’s jet fuel specifications. Additional demonstration projects included the introduction of bio-based polyester fabrics to applications in the airline, fashion and outdoor clothing industries.

On December 14, 2021, we finalized the formation of a joint venture with Archer-Daniels-Midland Company (“ADM”) for the production of soybean oil to supply rapidly growing demand for renewable diesel fuel. The joint venture, which is named Green Bison Soy Processing, LLC, will own and operate a soybean processing complex in Spiritwood, North Dakota, with ADM owning 75 percent of the joint venture and MPC owning 25 percent. When complete in 2023, the Spiritwood facility will source and process local soybeans and supply the resulting soybean oil exclusively to MPC. The Spiritwood complex is expected to produce approximately 600 million pounds of refined soybean oil annually, enough feedstock for approximately 75 million gallons of renewable diesel per year.

We hold an ownership interest in ethanol production facilities in Albion, Michigan; Logansport, Indiana; Greenville, Ohio and Denison, Iowa. These plants have a combined ethanol production capacity of approximately 475 million gallons per year and are managed by our joint venture partner, The Andersons, Inc. (“The Andersons”).

Refined Product Sales

Our refined products are sold to independent retailers, wholesale customers, our brand jobbers and direct dealers. In addition, we sell refined products for export to international customers. As of December 31, 2022, there were 7,209 brand jobber outlets in 38 states, the District of Columbia and Mexico where independent entrepreneurs primarily maintain Marathon-branded outlets. We also have long-term supply contracts for 1,172 direct dealer locations primarily in Southern California, largely under the ARCO® brand. We believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers and consumers within our market area.

The following table sets forth our refined product sales volumes by product group for each of the last three years.

(mbpd)	2022[a]	2021[a]	2020[a]
Gasoline[b]	1,870	1,834	1,669
Distillates[b]	1,169	1,089	1,040
NGLs and petrochemicals[b]	221	293	323
Asphalt	89	94	86
Propane	93	76	69
Heavy fuel oil	66	39	35
Total	3,508	3,425	3,222

[a] Refined product sales include volumes marketed directly to end-users and trading/supply volumes such as bulk sales to large unbranded resellers and other downstream companies. Marketed volumes directly to end users such as branded retail stations were 2,355 mbpd and 2,338 mbpd for the years ended December 31, 2022 and 2021, respectively.

[b] Sales include renewable products.

Refined Product Sales Destined for Export

We sell gasoline, distillates and asphalt for export, primarily out of our Garyville, Galveston Bay, Anacortes and Los Angeles refineries. The following table sets forth our refined product sales destined for export by product group for the past three years.

(*mbpd*)	2022	2021	2020
Gasoline	105	154	110
Distillates	158	162	187
Other	52	55	43
Total	315	371	340

Gasoline and Distillates

We sell gasoline, gasoline blendstocks and distillates (including No. 1 and No. 2 fuel oils, jet fuel, kerosene, diesel and renewable diesel) to wholesale customers, branded jobbers, direct dealers and in the spot market. In addition, we sell diesel fuel and gasoline for export to international customers. The demand for gasoline and distillates is seasonal in many of our markets, with demand typically at its highest levels during the summer months.

NGLs and Petrochemicals

We are a producer and marketer of NGLs and petrochemicals. Product availability varies by refinery and includes, among others, propylene, xylene, butane, benzene, toluene and cumene. We market these products domestically to customers in the chemical, agricultural and fuel-blending industries. In addition, we produce fuel-grade coke at our Garyville, Detroit, Galveston Bay and Los Angeles refineries, which is used for power generation and in miscellaneous industrial applications, and anode-grade coke at our Los Angeles and Robinson refineries, which is used to make carbon anodes for the aluminum smelting industry.

Asphalt

We have refinery-based asphalt production capacity of up to 141 mbpcd, which includes asphalt cements, polymer-modified asphalt, emulsified asphalt, industrial asphalts and roofing flux. We have a broad customer base, including asphalt-paving contractors, resellers, government entities (states, counties, cities and townships) and asphalt roofing shingle manufacturers. We sell asphalt in the domestic and export wholesale markets via rail, barge and vessel.

Propane

We produce propane at all of our refineries. Propane is primarily used for home heating and cooking, as a feedstock within the petrochemical industry, for grain drying and as a fuel for trucks and other vehicles. Our propane sales are split approximately 80 percent and 20 percent between the home heating market and industrial/petrochemical consumers, respectively.

Heavy Fuel Oil

We produce and market heavy residual fuel oil or related components, including slurry, at all of our refineries. Heavy residual fuel oil is primarily used in the utility and ship bunkering (fuel) industries, though there are other more specialized uses of the product.

Terminals and Transportation

We transport, store and distribute crude oil, feedstocks and refined products through pipelines, terminals and marine fleets owned by MPLX and third parties in our market areas.

We own a fleet of transport trucks and trailers for the movement of refined products and crude oil. In addition, we maintain a fleet of leased and owned railcars for the movement and storage of refined products.

The locations and detailed information about our Refining & Marketing assets are included under Item 2. Properties and are incorporated herein by reference.

Competition, Market Conditions and Seasonality

The downstream petroleum business is highly competitive, particularly with regard to accessing crude oil and other feedstock supply and the marketing of refined products. We compete with a number of other companies to acquire crude oil for refinery processing and in the distribution and marketing of a full array of refined products.

We compete in four distinct markets for the sale of refined products—wholesale, including exports, spot, branded and retail distribution. Our marketing operations compete with numerous other independent marketers, integrated oil companies and high-volume retailers. We compete with companies in the sale of refined products to wholesale marketing customers, including private-brand marketers and large commercial and industrial consumers; companies in the sale of refined products in the spot market; and refiners or marketers in the supply of refined products to refiner-branded independent entrepreneurs. In addition, we compete with producers and marketers in other industries that supply alternative forms of energy and fuels to satisfy the requirements of our industrial, commercial and retail consumers.

Market conditions in the oil and gas industry are cyclical and subject to global economic and political events and new and changing governmental regulations. Our operating results are affected by price changes in crude oil, natural gas and refined products, as well as changes in competitive conditions in the markets we serve. Price differentials between sweet and sour crude oils, ANS, WTI and MEH crude oils and other market structure impacts also affect our operating results.

Demand for gasoline, diesel fuel and asphalt is higher during the spring and summer months than during the winter months in most of our markets, primarily due to seasonal increases in highway traffic and construction. As a result, the operating results for our Refining & Marketing segment for the first and fourth quarters may be lower than for those in the second and third quarters of each calendar year.

Midstream

The Midstream segment primarily includes the operations of MPLX, our sponsored MLP, and certain related operations retained by MPC.

MPLX

MPLX owns and operates a network of crude oil, natural gas and refined product pipelines and has joint ownership interests in crude oil, refined products and other pipelines. MPLX also owns and operates light products terminals, storage assets and maintains a fleet of owned and leased towboats and barges in support of fuels distribution on behalf of MPC. MPLX's assets also include natural gas gathering systems and natural gas processing and NGL fractionation complexes.

MPC-Retained Midstream Assets and Investments

We own four Jones Act product tankers, have ownership interests in several crude oil and refined products pipeline systems and pipeline companies and have an indirect ownership interest in an ocean vessel joint venture through our investment in Crowley Coastal Partners LLC ("Crowley Coastal Partners").

The locations and detailed information about our Midstream assets are included under Item 2. Properties and are incorporated herein by reference.

Competition, Market Conditions and Seasonality

Our Midstream operations face competition for natural gas gathering, crude oil transportation and in obtaining natural gas supplies for our processing and related services; in obtaining unprocessed NGLs for gathering, transportation and fractionation; and in marketing our products and services. Competition for natural gas supplies is based primarily on the location of gas gathering systems and gas processing plants, operating efficiency and reliability, residue gas and NGL market connectivity, the ability to obtain a satisfactory price for products recovered and the fees charged for the services supplied to the customer. Competition for oil supplies is based primarily on the price and scope of services, location of gathering/transportation and storage facilities and connectivity to the best priced markets. Competitive factors affecting our fractionation services include availability of fractionation capacity, proximity to supply and industry marketing centers, the fees charged for fractionation services and operating efficiency and reliability of service. Competition for customers to purchase our natural gas and NGLs is based primarily on price, credit and market connectivity. In addition, certain of our Midstream operations are subject to rate regulation, which affects the rates that our common carrier pipelines can charge for transportation services and the return we obtain from such pipelines.

Our Midstream segment can be affected by seasonal fluctuations in the demand for natural gas and NGLs and the related fluctuations in commodity prices caused by various factors such as changes in transportation and travel patterns and variations in weather patterns from year to year.

REGULATORY MATTERS

Our operations are subject to numerous laws and regulations, including those relating to the protection of the environment. Such laws and regulations include, among others, the Clean Air Act ("CAA") with respect to air emissions, the Clean Water Act ("CWA") with respect to water discharges, the Resource Conservation and Recovery Act ("RCRA") with respect to solid and hazardous waste treatment, storage and disposal, the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") with respect to releases and remediation of hazardous substances and the Oil Pollution Act of 1990 ("OPA-90") with respect to oil pollution and response. In addition, many states where we operate have similar laws. New laws are being enacted and regulations are being adopted on a continuing basis, and the costs of compliance with such new laws and regulations are very difficult to estimate until finalized.

For a discussion of environmental capital expenditures and costs of compliance, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations-Environmental Matters and Compliance Costs. For additional information regarding regulatory risks, see Item 1A. Risk Factors.

Rate Regulation

Some of our existing pipelines are considered interstate common carrier pipelines subject to regulation by the Federal Energy Regulatory Commission ("FERC") under the Interstate Commerce Act (the "ICA"), Energy Policy Act of 1992 ("EPAct 1992") and the rules and regulations promulgated under those laws. The ICA and FERC regulations require that tariff rates for oil pipelines, a category that includes crude oil and petroleum product pipelines, be just and reasonable and the terms and conditions of service must not be unduly discriminatory. The ICA permits interested persons to challenge newly proposed tariff rates or terms and conditions of service, or any change to tariff rates or terms and conditions of service, and authorizes FERC to suspend the effectiveness of such proposal or change for a period of time to investigate. If, upon completion of an investigation, FERC finds that the new or changed service or rate is unlawful, it is authorized to require the carrier to refund the revenues in excess of the prior tariff collected during the pendency of the investigation. An interested person may also challenge existing terms and conditions of service or rates and FERC may order a carrier to change its terms and conditions of service or rates prospectively. Upon an appropriate showing, a shipper may also obtain reparations, from a pipeline, for damages sustained as a result of rates or terms which FERC deemed were not just and reasonable. Such reparation damages may accrue from the complaint through the final order and during the two years prior to the filing of a complaint.

EPAct 1992 deemed certain interstate petroleum pipeline rates then in effect to be just and reasonable under the ICA. These rates are commonly referred to as "grandfathered rates." Our rates for interstate transportation service in effect for the 365-day period ending on the date of the passage of EPAct 1992 were deemed just and reasonable and therefore are grandfathered. Subsequent changes to those rates are not grandfathered. New rates have since been established after EPAct 1992 for certain pipelines.

FERC permits regulated oil pipelines to change their rates within prescribed ceiling levels that are tied to an inflation index. A carrier must, as a general rule, utilize the indexing methodology to change its rates. Cost-of-service ratemaking, market-based rates and settlement rates are alternatives to the indexing approach and may be used in certain specified circumstances to change rates.

Air

GHG Emissions

We believe the advancement of public policy intended to address GHG emissions, climate change, and climate adaptation will continue, with the potential for further regulations that could affect our operations. Currently, legislative and regulatory measures to address GHG emissions are in various phases of review, discussion or implementation. Reductions in GHG emissions could result in increased costs to (i) operate and maintain our facilities, (ii) install new emission controls at our facilities, (iii) capture the emissions from our facilities and (iv) administer and manage any GHG emissions programs, including acquiring emission credits or allotments.

In February 2021, the Interagency Working Group on the Social Cost of Greenhouse Gases published interim estimates of the social cost of carbon, methane and nitrous oxide (collectively, social cost of GHG emissions). In its proposed methane emission rules for the oil and natural gas sector, the EPA significantly increased the social cost of GHG emissions in the cost and benefit analysis for the proposed rule. A higher social cost could support more stringent GHG emission regulation in various rule makings from methane emissions to vehicle tailpipe emissions.

States are becoming active in regulating GHG emissions. These measures may include state actions to develop statewide or regional programs to report emissions and impose emission reductions. These measures may also include low-carbon fuel standards, such as the California program, or a state carbon tax. These measures could result in increased costs to operate and maintain our facilities, capital expenditures to install new emission controls and costs to administer any carbon trading or tax programs implemented. For example, California has enacted a cap-and-trade program. Much of the compliance costs associated with the California program are ultimately passed on to the consumer in the form of higher fuel costs. States are increasingly announcing aspirational goals to be net-zero carbon emissions by a certain date through both legislation and executive orders. To date, these states have not provided significant details as to achievement of these goals; however, meeting these aspirations will require a reduction in fossil fuel combustion and/or a mechanism to capture GHGs from the atmosphere. As a result, we cannot currently predict the impact of these potential regulations on our liquidity, financial position, or results of operations.

Other Air Emissions

In 2021, the EPA announced it is reconsidering the National Ambient Air Quality Standards ("NAAQS") for ozone and fine particulate matter. In January 2023, EPA published its proposal to lower the primary (health-based) fine particulate matter annual standard from its current level of 12.0 μg/m3 to within the range of 9.0 to 10.0 μg/m3. EPA has not yet announced its decision on reconsideration of the ozone NAAQS. Lowering of the NAAQS and subsequent designation as a nonattainment area could result in increased costs associated with, or result in cancellation or delay of, capital projects at our or our customers' facilities, or could require emission reductions that could result in increased costs to us or our customers. We cannot predict the effects of the various state implementation plan requirements at this time.

In California, the Governing Board for the South Coast Air Quality Management District ("SCAQMD") adopted Rule 1109.1 in November 2021, which establishes Best Available Retrofit Control Technology ("BARCT") oxides of nitrogen ("NOx") and carbon monoxide ("CO") emission limits for combustion equipment at petroleum refineries. These new requirements will replace the Regional Clean Air Incentives Market ("RECLAIM") cap-and-trade program which has required a staged refinery-wide reduction of NOx emissions over the last several years and will result in additional emission reductions from our Los Angeles Refinery. Compliance with Rule 1109.1 is being phased in through 2032 and will result in increased costs to operate and maintain our Los Angeles Refinery.

Water

We maintain numerous discharge permits as required under the National Pollutant Discharge Elimination System program of the CWA and have implemented systems to oversee our compliance with these permits. In addition, we are regulated under OPA-90, which, among other things, requires the owner or operator of a tank vessel or a facility to maintain an emergency plan to respond to releases of oil or hazardous substances. OPA-90 also requires the responsible company to pay resulting removal costs and damages and provides for civil penalties and criminal sanctions for violations of its provisions. We operate tank vessels and facilities from which spills of oil and hazardous substances could occur. We have implemented emergency oil response plans for all of our components and facilities covered by OPA-90 and we have established Spill Prevention, Control and Countermeasures plans for all facilities subject to such requirements. Some coastal states in which we operate have passed state laws similar to OPA-90, but with expanded liability provisions, that include provisions for cargo owner responsibility as well as ship owner and operator responsibility.

On October 22, 2019, EPA and the United States Army Corps of Engineers ("Army Corps") published a final rule to repeal the 2015 "Clean Water Rule: Definition of Waters of the United States" ("2015 Rule"), which amended portions of the Code of Federal Regulations to restore the regulatory text that existed prior to the 2015 Rule, effective December 23, 2019. The rule repealing the 2015 Rule has been challenged in multiple federal courts. On April 21, 2020, EPA and the Army Corps promulgated the Navigable Waters Protection Rule ("2020 Rule") to define "waters of the United States." The 2020 Rule has been vacated by a federal court. On December 7, 2021, EPA and the Army Corps issued a notice of proposed rulemaking with the stated purpose of repealing the 2020 Rule defining "waters of the United States" and adopting a rule largely based upon the definition adopted in 1986 with some revisions based upon subsequent United States Supreme Court rulings, in particular Rapanos v. United States (2006) which produced two different tests for determining "waters of the United States," the relatively permanent waters and significant nexus tests. A broader definition could result in increased cost of compliance or increased capital costs for construction of new facilities or expansion of existing facilities.

In April 2020, the U.S. District Court in Montana vacated Nationwide Permit 12 ("NWP 12"), which authorizes the placement of fill material in "waters of the United States" for utility line activities as long as certain best management practices are implemented. The decision was ultimately appealed to the United States Supreme Court, which partially reversed the district court's decision, temporarily reinstating NWP 12 for all projects except the Keystone XL oil pipeline. The Army Corps subsequently reissued its nationwide permit authorizations on January 13, 2021, by dividing the NWP that authorizes utility line activities (NWP 12) into three separate NWPs that address the differences in how different utility line projects are constructed, the substances they convey, and the different standards and best management practices that help ensure those NWPs authorize only those activities that have no more than minimal adverse environmental effects. A challenge of the 2021 authorization is currently pending before the U.S. District Court for the District of Columbia ("D.D.C."), after being transferred from the U.S. District Court for the District of Montana in August 2022, and the plaintiffs request the court vacate and remand the 2021 authorization. Also, a petition has been filed with the Army Corps asking it to revoke the 2021 authorization. The Biden Administration could repeal or replace the 2021 authorization in a subsequent rulemaking. The repeal, vacatur, revocation or replacement of the 2021 authorization could impact pipeline construction and maintenance activities.

As part of our emergency response activities, we have used aqueous film forming foam ("AFFF") containing per- and polyfluoroalkyl substances ("PFAS") chemicals as a vapor and fire suppressant. At this time, AFFFs containing PFAS are the only proven foams that can prevent and control a flammable petroleum-based liquid fire involving a large storage tank or tank containment area.

In May 2016, EPA issued lifetime health advisory levels ("HALs") and health effects support documents for two PFAS substances - Perfluorooctanoic Acid ("PFOA") and Perfluorooctane Sulfonate ("PFOS"). These HALs were updated in June 2022, when EPA also issued HALs for two additional PFAS substances. In February 2019, EPA issued a PFAS Action Plan identifying actions it is planning to take to study and regulate various PFAS chemicals. EPA identified that it would evaluate, among other actions, (1) proposing national drinking water standards for PFOA and PFOS, (2) develop cleanup recommendations for PFOA and PFOS, (3) evaluate listing PFOA and PFOS as hazardous substances under CERCLA, and (4) conduct toxicity assessments for other PFAS chemicals. EPA did not issue any further regulations for PFAS under the Trump administration. In October 2021, EPA updated the 2019 PFAS Action Plan. On December 5, 2022, EPA issued to states and EPA regional offices a memorandum providing guidance for addressing PFAS discharges in wastewater and stormwater. Also, EPA has indicated it intends to issue a notice of proposed rulemaking in 2023 that will establish national drinking water standards for PFOS and PFOA. Congress may also take further action to regulate PFAS. We cannot currently predict the impact of potential statutes or regulations on our operations.

In addition, many states are actively proposing and adopting legislation and regulations relating to the use of AFFFs containing PFAS. Additionally, many states are using EPA HALs for PFOS and PFOA and some states are adopting and proposing state-specific drinking water and cleanup standards for various PFAS, including but not limited to PFOS and PFOA. We cannot currently predict the impact of these regulations on our liquidity, financial position, or results of operations.

Solid Waste

We continue to seek methods to minimize the generation of hazardous wastes in our operations. RCRA establishes standards for the management of solid and hazardous wastes. Besides affecting waste disposal practices, RCRA also addresses the environmental effects of certain past waste disposal operations, the recycling of wastes and the regulation of USTs containing regulated substances.

Remediation

We own or operate, or have owned or operated, certain convenience stores and other locations where, during the normal course of operations, releases of refined products from USTs have occurred. Federal and state laws require that contamination caused by such releases at these sites be assessed and remediated to meet applicable standards. Penalties or other sanctions may be imposed for noncompliance. The enforcement of the UST regulations under RCRA has been delegated to the states, which administer their own UST programs. Our obligation to remediate such contamination varies, depending on the extent of the releases and the applicable state laws and regulations. A portion of these remediation costs may be recoverable from the appropriate state UST reimbursement funds once the applicable deductibles have been satisfied. We also have ongoing remediation projects at a number of our current and former refinery, terminal and pipeline locations.

Claims under CERCLA and similar state acts have been raised with respect to the clean-up of various waste disposal and other sites. CERCLA is intended to facilitate the clean-up of hazardous substances without regard to fault. Potentially responsible parties for each site include present and former owners and operators of, transporters to and generators of the hazardous substances at the site. Liability is strict and can be joint and several. Because of various factors including the difficulty of identifying the responsible parties for any particular site, the complexity of determining the relative liability among them, the uncertainty as to the most desirable remediation techniques and the amount of damages and clean-up costs and the time period during which such costs may be incurred, we are unable to reasonably estimate our ultimate cost of compliance with CERCLA; however, we do not believe such costs will be material to our business, financial condition, results of operations or cash flows.

On September 6, 2022, EPA issued a notice of proposed rulemaking that would designate PFOS and PFOA as hazardous substances under CERCLA Section 102(a). Additional PFAS regulation could include the designation of PFAS as a RCRA hazardous waste. We cannot currently predict the impact of potential statutes or regulations on our remediation costs.

Vehicle and Fuel Requirements

Fuel Economy and GHG Emission Standards for Vehicles

The National Highway Traffic Safety Administration (“NHTSA”) establishes corporate average fuel economy (“CAFE”) standards for passenger cars and light trucks. In addition, EPA establishes carbon dioxide (“CO2”) emission standards for passenger cars and light trucks. At the direction of President Biden in his executive order setting a goal that 50 percent of all new passenger cars and light trucks sold in 2030 be zero emission vehicles, EPA and NHTSA have promulgated separate rules setting more stringent requirements for reductions through model year 2026. NHTSA’s amended CAFE standards would increase in stringency from model year 2023 levels by eight percent annually for model years 2024-2025 and ten percent annually for model year 2026. EPA’s revised model year 2023-2026 CO2 emission standards, which were finalized in December 2021, result in average fuel economy of 40 mpg in model year 2026. The NHTSA and EPA regulations have been challenged in court. Higher CAFE and CO2 emission standards for cars and light trucks reduce demand for our transportation fuels.

In addition, California may establish per its Clean Air Act waiver authority different standards that could apply in multiple states. EPA has issued a rule that reinstates California’s waiver for its Advanced Clean Car I program, which includes requirements for zero emission vehicle sales through 2025. California’s governor has also issued an executive order requiring sales of all new passenger vehicles in the state be zero-emission by 2035. The California Air Resources Board followed this executive order by finalizing its Advanced Clean Car II regulation, which bans the sale of internal combustion engine vehicles in California in 2035. Other states have issued, or may issue, zero emission vehicle mandates.

Renewable Fuels Standards and Low Carbon Fuel Standards

Pursuant to the Energy Policy Act of 2005 and the EISA, Congress established a Renewable Fuel Standard (“RFS”) program that requires annual volumes of renewable fuel be blended into domestic transportation fuel. The statutory volumes apply through calendar year 2022. When EPA promulgates the annual renewable fuel volume obligations, EPA may reduce the statutory amount of renewable fuel that must be blended using its waiver or reset authority. After calendar year 2022, the statute gives EPA the authority to set the annual volumes. EPA has proposed annual volumes for 2023-2025 that increase the volume of renewable fuel that must be blended year over year. The greatest increase in annual volumes arises from EPA’s proposal to approve a process in which electricity generated from renewable biomass used to fuel vehicles can generate a Renewable Identification Number (“eRIN”) under the RFS.

There is currently no regulatory method for verifying the validity of most RINs sold on the open market. We have developed a RIN integrity program to vet the RINs that we purchase, and we incur costs to audit RIN generators. Nevertheless, if any of the RINs that we purchase and use for compliance are found to be invalid, we could incur costs and penalties for replacing the invalid RINs.

In addition to the federal Renewable Fuel Standards, certain states have, or are considering, promulgation of state renewable or low carbon fuel standards. For example, California began implementing its LCFS in January 2011. In September 2015, the CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. The LCFS was amended again in 2018 with the current version targeting a 20 percent reduction in fuel carbon intensity from a 2010 baseline by 2030. CARB is currently holding a series of workshops to discuss potential changes to the LCFS, including increasing the stringency of the carbon intensity targets for 2030 and beyond. We incur costs to comply with LCFS programs, and these costs may increase if the cost of LCFS credits increases.

In sum, the RFS has required, and may in the future continue to require, additional capital expenditures or expenses by us to accommodate increased renewable fuels use. We may experience a decrease in demand for refined products due to an increase in combined fleet mileage or due to refined products being replaced by renewable fuels. Demand for our refined products also may decrease as a result of low carbon fuel standard programs or electric vehicle mandates.

Safety Matters

We are subject to oversight pursuant to the federal Occupational Safety and Health Act, as amended (“OSH Act”), as well as comparable state statutes that regulate the protection of the health and safety of workers. We believe that we have conducted our operations in substantial compliance with regulations promulgated pursuant to the OSH Act, including general industry standards, record-keeping requirements and monitoring of occupational exposure to regulated substances.

We are also subject at regulated facilities to the Occupational Safety and Health Administration’s Process Safety Management (“PSM”) and EPA’s Risk Management Program (“RMP”) requirements, which are intended to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals. EPA has proposed revisions to its RMP regulation. The proposed revisions include a requirement that refineries with hydrofluoric acid alkylation units perform a safer technologies and alternatives analysis as part of the process hazard analysis and to document the feasibility of inherent safety measures. The application of these regulations can result in increased compliance expenditures.

In general, we expect industry and regulatory safety standards to become more stringent over time, resulting in increased compliance expenditures. While these expenditures cannot be accurately estimated at this time, we do not expect such expenditures will have a material adverse effect on our results of operations.

The DOT has adopted safety regulations with respect to the design, construction, operation, maintenance, inspection and management of our pipeline assets. These regulations contain requirements for the development and implementation of pipeline integrity management programs, which include the inspection and testing of pipelines and the correction of anomalies. These regulations also require that pipeline operation and maintenance personnel meet certain qualifications and that pipeline operators develop comprehensive spill response plans.

Tribal Lands

Various federal agencies, including EPA and the Department of the Interior, along with certain Native American tribes, promulgate and enforce regulations pertaining to oil and gas operations on Native American tribal lands where we operate. These regulations include such matters as lease provisions, drilling and production requirements, and standards to protect environmental quality and cultural resources. In addition, each Native American tribe is a sovereign nation having the right to enforce certain laws and regulations and to grant approvals independent from federal, state and local statutes and regulations. These laws and regulations may increase our costs of doing business on Native American tribal lands and impact the viability of, or prevent or delay our ability to conduct, our operations on such lands.

TRADEMARKS, PATENTS AND LICENSES

Our Marathon and ARCO trademarks are material to the conduct of our refining and marketing operations. We currently hold a number of U.S. and foreign patents and have various pending patent applications. Although in the aggregate our patents and licenses are important to us, we do not regard any single patent or license or group of related patents or licenses as critical or essential to our business as a whole. In general, we depend on our technological capabilities and the application of know-how rather than patents and licenses in the conduct of our operations.

HUMAN CAPITAL

We believe our employees are our greatest asset of strength, and our culture reflects the quality of individuals across our workforce. Our collaborative efforts, which include fostering an inclusive environment, providing broad-based development and mentorship opportunities, recognizing and rewarding accomplishments and offering benefits that support the well-being of our employees and their families, contribute to increased engagement and fulfilling careers. Empowering our people and prioritizing accountability are also key components for developing MPC's high-performing culture, which is critical to achieving our strategic vision.

Employee Profile

As of December 31, 2022, we employed approximately 17,800 people in full-time and part-time roles. Many of these employees provide services to MPLX, for which we are reimbursed in accordance with employee service agreements. Approximately 3,755 of our employees are covered by collective bargaining agreements.

Safety

We are committed to safe operations to protect the health and safety of our employees, contractors and communities. Our commitment to safe operations is reflected in our safety systems design, our well-maintained equipment and by learning from our incidents. Part of our effort to promote safety includes our Operational Excellence Management System, which expands on the RC14001® scope, incorporates a Plan-Do-Check-Act continual improvement cycle, and aligns with ISO 9001, incorporating quality and an increased stakeholder and process focus. Together, these components of our safety management system provide us with a comprehensive approach to managing risks and preventing incidents, illnesses and fatalities. Additionally, our annual cash bonus program metrics include several employee, process and environmental safety metrics.

In 2022, MPC rolled back a majority of its COVID protocols which included the return of all employees to their respective work locations. We continue to monitor the situation and adapt our COVID protocols as appropriate.

Talent Management

Executing our strategic vision requires that we attract and retain the best talent. Recruiting and retention success requires that we effectively nurture new employees, providing opportunities for long-term engagement and career advancement. We also appropriately reward high-performers and offer competitive benefits. Our Talent Acquisition team consists of three segments: Executive Recruiting, Experienced Recruiting and University Recruiting. The specialization within each group allows us to specifically address MPC's broad range of current and future talent needs, as well as devote time and attention to candidates during the hiring process. We value diverse perspectives in the workforce, and accordingly we seek candidates with a variety of backgrounds and experience. Our primary source of full-time, entry-level new hires is our intern/co-op program. Through our university recruiters, we offer college students who have completed their freshman year the opportunity to participate in our hands-on programs focused in areas of finance and accounting, marketing, engineering and IT.

We provide a broad range of leadership training opportunities to support the development of leaders at all levels. Our programs, which are offered across the organization are a blended approach of business and leadership content, with many featuring external faculty. We utilize various learning modalities, such as visual, audio, print, tactile, interactive, kinesthetic, experiential and leader-teaching-leader to address and engage different learning styles. We believe networking and access to our executive team are a key leadership success factor, and we incorporate these opportunities into all of our programs.

Compensation and Benefits

To ensure we are offering competitive pay packages in our recruitment and retention efforts, we annually benchmark compensation, including base salaries, bonus levels and long-term incentive targets. Our annual bonus program is a critical component of our compensation, as it provides individual rewards for MPC's achievement against preset financial and ESG goals, encouraging a sense of employee ownership. Employees in our senior leader pay grades, as well as most other leaders, receive long-term incentive awards annually to align their compensation to the interests of MPC shareholders and MPLX unitholders.

We offer comprehensive benefits that are also benchmarked annually, including medical, dental and vision insurance for our employees, their spouses or domestic partners, and their dependents. We also provide retirement programs, life insurance, education assistance, family assistance, short-term disability and paid vacation and sick time. In addition, we provide generous paid parental leave benefits for birth mothers and nonbirth parents; and parents who both work for the Company are each eligible for the benefit. Further, we have a substantial accrual cap for vacation banks and also award a significant number of college and trade school scholarships to high school senior children of our employees through the Marathon Petroleum Scholars Program. Both full-time and part-time employees are eligible for these benefits.

Inclusion

Our company-wide Diversity, Equity and Inclusion ("DE&I") program is guided by a dedicated DE&I team led by our Vice President Talent Acquisition and Diversity, Equity & Inclusion and supported by leadership company-wide. Our program is based on our four-pillar DE&I strategy of building awareness, increasing representation, ensuring success, and measurement and accountability. To execute our strategy, our near-term action plans are focused on building a diverse workforce, creating a more inclusive culture, and contributing to our thriving communities.

We have employee networks focusing on seven populations: Asian, Black, Disability, Hispanic, LGBTQ+, Veterans and Women. Our employee networks have approximately 60 chapters across the company and all networks encourage ally membership. This broad support extends also to our leaders throughout MPC, with each employee network represented by two active executive sponsors. The sponsors form several counsels that meet regularly to share updates, gain alignment, build deeper connections across networks and pursue collaboration ideas. Our employee networks not only provide opportunities for our employees to make meaningful and supportive connections, but they also serve a significant role in our DE&I strategy.

EXECUTIVE OFFICERS

Following is information about the executive officers and corporate officers of MPC:

Name	Age as of February 1, 2023	Position with MPC
Michael J. Hennigan	63	President and Chief Executive Officer
Maryann T. Mannen	60	Executive Vice President and Chief Financial Officer
Timothy J. Aydt	59	Executive Vice President, Refining
Suzanne Gagle	57	General Counsel and Senior Vice President, Government Affairs
Fiona C. Laird*	61	Chief Human Resources Officer and Senior Vice President, Communications
C. Kristopher Hagedorn	46	Senior Vice President and Controller
David R. Heppner*	56	Senior Vice President, Strategy and Business Development
Rick D. Hessling*	56	Senior Vice President, Global Feedstocks
Brian K. Partee*	49	Senior Vice President, Global Clean Products
Ehren D. Powell*	43	Senior Vice President and Chief Digital Officer
James R. Wilkins*	56	Senior Vice President, Health, Environment, Safety and Security
Molly R. Benson*	56	Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary
Kristina A. Kazarian*	40	Vice President, Finance and Investor Relations
Kelly S. Niese*	43	Vice President, Treasury
Gregory S. Floerke	59	MPLX Executive Vice President and Chief Operating Officer
Shawn M. Lyon	55	MPLX Senior Vice President, Logistics & Storage

* Corporate officer.

Mr. Hennigan was appointed President and Chief Executive Officer effective March 2020, and as a member of the Board of Directors effective April 2020. He also has served as Chairman of the Board of MPLX since April 2020, as Chief Executive Officer since November 2019 and as President since June 2017. Before joining MPLX, Mr. Hennigan was President, Crude, NGL and Refined Products, of the general partner of Energy Transfer Partners L.P., an energy service provider. He was President and Chief Executive Officer of Sunoco Logistics Partners L.P., an oil and gas transportation, terminalling and storage company, from 2012 to 2017, President and Chief Operating Officer beginning in 2010, and Vice President, Business Development, beginning in 2009.

Ms. Mannen was appointed Executive Vice President and Chief Financial Officer effective January 25, 2021 and as a member of MPLX's Board of Directors effective February 1, 2021. Before joining MPC, she served as Executive Vice President and Chief Financial Officer of TechnipFMC (a successor to FMC Technologies, Inc.), a global leader in subsea, onshore/offshore, and surface projects for the energy industry, since 2017, having previously served as Executive Vice President and Chief Financial Officer of FMC Technologies, Inc. since 2014, Senior Vice President and Chief Financial Officer since 2011, and in various positions of increasing responsibility with FMC Technologies, Inc. since 1986.

Mr. Aydt was appointed Executive Vice President, Refining, effective October 2022, having previously served as Executive Vice President and Chief Commercial Officer of MPLX since August 2020. Prior to his 2020 appointment, he served as Vice President, Business Development, beginning in November 2018, Vice President, Operations, and President of Marathon Pipe Line LLC beginning in January 2017, MPC's Terminal, Transport and Rail General Manager beginning in 2013, and Project Director for the $2.2 billion Detroit Heavy Oil Upgrade Project beginning in 2008.

Ms. Gagle was appointed General Counsel and Senior Vice President, Government Affairs, effective February 24, 2021. Prior to this appointment, she served as General Counsel beginning in March 2016, Assistant General Counsel, Litigation and Human Resources, beginning in 2011, Senior Group Counsel, Downstream Operations, beginning in 2010, and Group Counsel, Litigation, beginning in 2003.

Ms. Laird was appointed Chief Human Resources Officer and Senior Vice President, Communications, effective February 24, 2021. Prior to this appointment, she served as Chief Human Resources Officer beginning in October 2018, having previously served as Chief Human Resources Officer at Andeavor beginning in February 2018. Before joining Andeavor, Ms. Laird was Chief Human Resources and Communications Officer for Newell Brands, a global consumer goods company, beginning in May 2016 and Executive Vice President, Human Resources, for Unilever, a global consumer goods company, beginning in 2011.

Mr. Hagedorn was appointed Senior Vice President and Controller effective September 2021. Prior to this appointment, he served as MPLX's Vice President and Controller since October 2017. Before joining MPLX, he was Vice President and Controller at CONSOL Energy Inc., a Pennsylvania-based natural gas and coal producer and exporter, beginning in 2015, Assistant Controller beginning in 2014 and Director, Financial Accounting, beginning in 2012. Mr. Hagedorn was Chief Accounting Officer for CONE Midstream Partners LP, a publicly traded master limited partnership with gathering assets in the Appalachian Basin, from 2014 to 2015. Previously, he served in positions of increasing responsibility with PricewaterhouseCoopers LLP beginning in 1998.

Mr. Heppner was appointed Senior Vice President, Strategy and Business Development, effective February 24, 2021. Prior to this appointment, he served as Vice President, Commercial and Business Development, beginning in October 2018, Senior Vice President of Engineering Services and Corporate Support of Speedway LLC beginning in 2014, and Director, Wholesale Marketing, beginning in 2010.

Mr. Hessling was appointed Senior Vice President, Global Feedstocks, effective February 24, 2021. Prior to this appointment, he served as Senior Vice President, Crude Oil Supply and Logistics, beginning in October 2018, Manager, Crude Oil & Natural Gas Supply and Trading, beginning in 2014, and Crude Oil Logistics & Analysis Manager beginning in 2011.

Mr. Partee was appointed Senior Vice President, Global Clean Products, effective February 24, 2021. Prior to this appointment, he served as Senior Vice President, Marketing, beginning in October 2018, Vice President, Business Development, beginning in February 2018, Director of Business Development beginning in January 2017, Manager of Crude Oil Logistics beginning in 2014, and Vice President, Business Development and Franchise, at Speedway beginning in 2012.

Mr. Powell was appointed Senior Vice President and Chief Digital Officer effective July 20, 2020. Before joining MPC, he served as Vice President and Chief Information Officer ("CIO") at GE Healthcare, a segment of General Electric Company ("GE") that provides medical technologies and services, beginning in April 2018, having previously served as Senior Vice President and CIO, Services, of GE, a multinational conglomerate, since January 2017 and CIO, Power Services, with GE Power since 2014, and in various positions of increasing responsibility with GE and its subsidiaries since 2000.

Mr. Wilkins was appointed Senior Vice President, Health, Environment, Safety and Security, effective February 24, 2021. Prior to this appointment, he served as Vice President, Environment, Safety and Security, beginning in October 2018, Director, Environment, Safety, Security and Product Quality, beginning in February 2016, and Director, Refining Environmental, Safety, Security and Process Safety Management, beginning in 2013.

Ms. Benson was appointed Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary effective June 2018, having previously served as Vice President, Chief Compliance Officer and Corporate Secretary since March 2016. Prior to her 2016 appointment, she served as Assistant General Counsel, Corporate and Finance, beginning in 2012, and Group Counsel, Corporate and Finance, beginning in 2011.

Ms. Kazarian was appointed Vice President, Finance and Investor Relations, effective January 2023. Prior to this appointment, she served as Vice President, Investor Relations, beginning in April 2018. Before joining MPC, she was Managing Director and head of the MLP, Midstream and Refining Equity Research teams at Credit Suisse, a global investment bank and financial services company, beginning in September 2017. Previously, Ms. Kazarian was Managing Director of MLP, Midstream and Natural Gas Equity Research at Deutsche Bank, a global investment bank and financial services company, beginning in 2014, and an analyst specializing on various energy industry subsectors with Fidelity Management & Research Company, a privately held investment manager, beginning in 2005.

Ms. Niese was appointed Vice President, Treasury, effective January 2023. Prior to this appointment, she served as Assistant Treasurer beginning in February 2017, Corporate Finance Manager beginning in October 2014, and Brand Coordinating Manager beginning in 2011, having previously served in various analytical roles within Crude Supply, Terminals, Transportation and Rail and Internal Audit since joining MPC in 2003.

Mr. Floerke was appointed MPLX Executive Vice President and Chief Operating Officer effective August 2020. Prior to this appointment, he served as Executive Vice President, Gathering and Processing, beginning in 2018, Executive Vice President and Chief Operating Officer, MarkWest Operations, beginning in July 2017, and Executive Vice President and Chief Commercial Officer, MarkWest Assets, beginning in 2015, at the time of MPLX's acquisition of MarkWest Energy Partners, L.P. Before joining us, Mr. Floerke was Executive Vice President and Chief Commercial Officer at MarkWest beginning in 2015, and Senior Vice President, Northeast region, at MarkWest beginning in 2013. Previously, Mr. Floerke held senior management positions at Access Midstream Partners, L.P. from 2011 until 2013.

Mr. Lyon was appointed MPLX Senior Vice President, Logistics and Storage, effective September 2022, having previously served as Vice President, Operations, and President, Marathon Pipe Line LLC, since November 2018. Prior to his 2018 appointment, he was Vice President of Operations for Marathon Pipe Line LLC beginning in 2011. Previously, Mr. Lyon served in various roles of increasing responsibility with MPC since 1989, including as Manager, Marketing and Transportation Engineering beginning in 2010, and District Manager, Transport and Rail beginning in 2008. He serves as board chair for Liquid Energy Pipeline Association.

AVAILABLE INFORMATION

General information about MPC, including our Corporate Governance Principles, our Code of Business Conduct and our Code of Ethics for Senior Financial Officers, can be found at www.marathonpetroleum.com under the "Investors" tab by selecting "Corporate Governance." We would post on our website any amendments to, or waivers from, either of our codes requiring disclosure under applicable rules within four business days following any such amendment or waiver. Charters for the Audit Committee, Compensation and Organization Development Committee, Corporate Governance and Nominating Committee and Sustainability and Public Policy Committee are also available at this site under the "About" tab by selecting "Board of Directors."

MPC uses its website, www.marathonpetroleum.com, as a channel for routine distribution of important information, including news releases, analyst presentations, financial information and market data. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments and exhibits to those reports, are available free of charge through our website as soon as reasonably practicable after the reports are filed or furnished with the SEC, or on the SEC's website at www.sec.gov. These documents are also available in hard copy, free of charge, by contacting our Investor Relations office. In addition, our website allows investors and other interested persons to sign up to automatically receive email alerts when we post news releases and financial information on our website. Information contained on our website is not incorporated into this Annual Report on Form 10-K or other securities filings.

Item 1A. Risk Factors

You should carefully consider each of the following risks and all the other information contained in this Annual Report on Form 10-K in evaluating us and our common stock. Although the risks are organized by headings, and each risk is discussed separately, many are interrelated. Our business, financial condition, results of operations and cash flows could be materially and adversely affected by these risks, and, as a result, the trading price of our common stock could decline. We have in the past been adversely affected by certain of, and may in the future be affected by, these risks. You should not interpret the disclosure of any risk factor to imply that the risk has not already materialized.

Business and Operational Risks

Our financial results are affected by volatile refining margins, which are dependent on factors beyond our control.

Our operating results, cash flows, future rate of growth, the carrying value of our assets and our ability to execute share repurchases and continue the payment of our base dividend are highly dependent on the margins we realize on our refined products. Historically, refining and marketing margins have been volatile, and we believe they will continue to be volatile. Our margins from the sale of gasoline and other refined products are influenced by a number of conditions, including the price of crude oil and other feedstocks. The prices of feedstocks and the prices at which we can sell our refined products fluctuate independently due to a variety of regional and global market factors that are beyond our control, including:

- worldwide and domestic supplies of and demand for feedstocks and refined products;
- transportation infrastructure cost and availability;
- operation levels of other refineries in our markets;
- the development by competitors of new refining or renewable conversion capacity;
- natural gas and electricity supply costs;
- political instability, threatened or actual terrorist incidents, armed conflict or other global political or economic conditions;
- local weather conditions; and
- the occurrence of other risks described herein.

Some of these factors can vary by region and may change quickly, adding to market volatility, while others may have longer-term effects. The longer-term effects of these and other factors on refining and marketing margins are uncertain. We generally purchase our feedstocks weeks before we refine them and sell the refined products. Price level changes during the period between purchasing feedstocks and selling the refined products from these feedstocks can have a significant effect on our financial results. We also purchase refined products manufactured by others for resale to our customers. Price changes during the periods between purchasing and reselling those refined products can have a material and adverse effect on our business, financial condition, results of operations and cash flows.

Lower refining and marketing margins have in the past, and may in the future, lead us to reduce the amount of refined products we produce, which may reduce our revenues, income from operations and cash flows. Significant reductions in refining and marketing margins could require us to reduce our capital expenditures, impair the carrying value of our assets (such as property, plant and equipment, inventory or goodwill), and require us to re-evaluate practices regarding our repurchase activity and dividends.

Legal, technological, political and scientific developments regarding emissions, fuel efficiency and alternative fuel vehicles may decrease demand for petroleum-based transportation fuels.

Developments aimed at reducing vehicle emissions, increasing vehicle efficiency or reducing the sale of new petroleum-fueled vehicles may decrease the demand and may increase the cost for our transportation fuels. At the direction of President Biden in his Executive Order setting a goal that 50 percent of all new passenger cars and light trucks sold in 2030 be zero emission vehicles, EPA and NHTSA have promulgated separate rules setting more stringent requirements for reductions through model year 2026. NHTSA's amended CAFE standards increase in stringency from model year 2023 levels by eight percent annually for model years 2024-2025 and ten percent annually for model year 2026. EPA's revised model year 2023-2026 CO_2 emission standards, which were finalized in December 2021, result in average fuel economy of 40 mpg in model year 2026. Other jurisdictions have issued or considered issuing similar mandates, and we expect this trend will continue.

Moreover, consumer acceptance and market penetration of electric, hybrid and alternative fuel vehicles continues to increase. In 2021, several automobile manufacturers jointly announced their shared goal that 40-50% of their new vehicle sales be battery electric, fuel cell or plug-in hybrid vehicles by 2030. Other automobile manufacturers have similar, or more aggressive, goals with respect to vehicle electrification. Technological breakthroughs relating to renewable fuels or other fuel alternatives such as hydrogen or ammonia, or efficiency improvements for internal combustion engines could reduce demand for petroleum-based transportation fuels.

Together, these trends and developments have had and are expected to continue to have an adverse effect on sales of our petroleum-based transportation fuels, which in turn could have a material and adverse effect on our business, financial condition, results of operations and cash flows.

Our operations are subject to business interruptions and casualty losses.

Our operations are subject to business interruptions, such as scheduled and unscheduled refinery turnarounds, unplanned maintenance, explosions, fires, refinery or pipeline releases, product quality incidents, power outages, severe weather, labor disputes, acts of terrorism, or other natural or man-made disasters. These types of incidents adversely affect our operations and may result in serious personal injury or loss of human life, significant damage to property and equipment, impaired ability to manufacture our products, environmental pollution, and substantial losses. We have experienced certain of these incidents in the past.

For assets located near populated areas, the level of damage resulting from such an incident could be greater. In addition, we operate in and adjacent to environmentally sensitive waters where tanker, pipeline, rail car and refined product transportation and storage operations are closely regulated by federal, state and local agencies and monitored by environmental interest groups. Certain of our refineries receive crude oil and other feedstocks by tanker or barge. MPLX operates a fleet of boats and barges to transport light products, heavy oils, crude oil, renewable fuels, chemicals and feedstocks to and from refineries and terminals owned by MPC. Transportation and storage of crude oil, other feedstocks and refined products over and adjacent to water involves inherent risk and subjects us to the provisions of the OPA-90 and state laws in U.S. coastal and Great Lakes states and states bordering inland waterways on which we operate, as well as international laws in the jurisdictions in which we operate. If we are unable to promptly and adequately contain any accident or discharge involving tankers, pipelines, rail cars or above ground storage tanks transporting or storing crude oil, other feedstocks or refined products, we may be subject to substantial liability. In addition, the service providers contracted to aid us in a discharge response may be unavailable due to weather conditions, governmental regulations or other local or global events.

Damages resulting from an incident involving any of our assets or operations may result in our being named as a defendant in one or more lawsuits asserting potentially substantial claims or in our being assessed potentially substantial fines by governmental authorities.

We are increasingly dependent on the performance of our information technology systems and those of our third-party business partners and service providers.

We are increasingly dependent on our information technology systems and those of our third-party business partners and service providers for the safe and effective operation of our business. We rely on such systems to process, transmit and store electronic information, including financial records and personally identifiable information such as employee, customer and investor data, and to manage or support a variety of business processes, including our supply chain, pipeline operations, gathering and processing operations, credit card payments and authorizations at certain of our customers' retail outlets, financial transactions, banking and numerous other processes and transactions.

Our systems (and those of our third-party business partners and service providers) are subject to numerous and evolving cybersecurity threats and attacks, including ransomware and other malware, and phishing and social engineering schemes, which can compromise our ability to operate, and the confidentiality, availability, and integrity of data in our systems or those of our third-party business partners and service providers. These and other cybersecurity threats may originate with criminal attackers, state-sponsored actors or employee error or malfeasance. Because the techniques used to obtain unauthorized access, or to disable or degrade systems continuously evolve and have become increasingly complex and sophisticated, and can remain undetected for a period of time despite efforts to detect and respond in a timely manner, we (and our third-party business partners and service providers) are subject to the risk of cyberattacks.

Our cybersecurity and infrastructure protection technologies, disaster recovery plans and systems, employee training and vendor risk management may not be sufficient to defend us against all unauthorized attempts to access our information or impact our systems. We and our third-party vendors and service providers have been and may in the future be subject to cybersecurity events of varying degrees. To date, the impacts of prior events have not had a material adverse effect on us.

Cybersecurity events involving our information technology systems or those of our third-party business partners and service providers can result in theft, destruction, loss, misappropriation or release of confidential financial data, regulated personally identifiable information, intellectual property and other information; give rise to remediation or other expenses; result in litigation, claims and increased regulatory review or scrutiny; reduce our customers' willingness to do business with us; disrupt our operations and the services we provide to customers; and subject us to litigation and legal liability under international, U.S. federal and state laws. Any of such results could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

The availability and cost of renewable identification numbers could have an adverse effect on our financial condition and results of operations.

Pursuant to the Energy Policy Act of 2005 and the EISA, Congress established a Renewable Fuel Standard ("RFS") program that requires annual volumes of renewable fuel be blended into domestic transportation fuel. A RIN is assigned to each gallon of renewable fuel produced in, or imported into, the United States. As a producer of petroleum-based motor fuels, we are obligated to blend renewable fuels into the products we produce at a rate that is at least commensurate to EPA's quota and, to the extent we do not, we must purchase RINs in the open market to satisfy our obligation under the RFS program. We are exposed to the volatility in the market price of RINs. We cannot predict the future prices of RINs. RINs prices are dependent upon a variety of factors, including EPA regulations, the availability of RINs for purchase, and levels of transportation fuels produced, which can vary significantly from quarter to quarter. There is currently no regulatory method for verifying the validity of most RINs sold on the open market. We have developed a RIN integrity program to vet the RINs that we purchase, and we incur costs to audit RIN generators. Nevertheless, if any of the RINs that we purchase and use for compliance are found to be invalid, we could incur costs and penalties for replacing the invalid RINs. See Item 1. Business – Regulatory Matters for additional information on these and other regulatory compliance matters.

Competitors that produce their own supply of feedstocks, own their own retail sites, or have greater financial resources may have a competitive advantage.

The refining and marketing industry is highly competitive with respect to both feedstock supply and refined petroleum products. We compete with many companies for available supplies of crude oil and other feedstocks, and we do not produce any of our crude oil feedstocks. Our competitors include multinational, integrated major oil companies that can obtain a significant portion of their feedstocks from company-owned production. Competitors that produce crude oil are at times better positioned to withstand periods of depressed refining margins or feedstock shortages.

We also compete with other companies for customers for our refined petroleum products. The independent entrepreneurs who operate primarily Marathon-branded outlets and the direct dealer locations we supply compete with other convenience store chains, outlets owned or operated by integrated major oil companies or their dealers or jobbers, and other well-recognized national or regional retail outlets, often selling transportation fuels and merchandise at very competitive prices. Non-traditional transportation fuel retailers, such as supermarkets, club stores and mass merchants, may be better able to withstand volatile market conditions or levels of low or no profitability in the retail segment of the market. The loss of market share by those who operate our branded outlets and the direct dealer locations we supply could adversely affect our business, financial condition, results of operations and cash flows.

The COVID-19 pandemic has had, and may continue to have, a material and adverse effect on our and our customers' business and on general economic, financial and business conditions.

The COVID-19 pandemic and existing COVID-19 mitigation measures have had adverse effects on global travel and economic activity and, consequently, demand for the petroleum products that we manufacture, sell, transport and store. While demand for the petroleum products that we manufacture, sell, transport and store witnessed a substantial recovery in 2022, significant uncertainty remains as to the extent to which further resurgences in the virus, the emergence of new variants and waning vaccine effectiveness may spur future actions by individuals, governments and the private sector to stem the spread of the virus.

The extent to which the COVID-19 pandemic continues to impact global economic conditions, our business and the business of our customers, suppliers and other counterparties, will depend largely on future developments that remain uncertain and cannot be predicted, such as the length and severity of the pandemic; the social, economic and epidemiological effects of COVID-19 mitigation measures; the extent to which individuals acquire and retain immunity; emerging virus variants and how those new variants of the disease affect the human body; the stress on access to materials, supplies and contract labor; and general economic conditions.

Additionally, the continuation of the pandemic could precipitate or aggravate the other risks identified in this Form 10-K, which in turn could further materially and adversely affect our business, financial condition and results of operations, including in ways not currently known or considered by us to present significant risks.

We may be negatively impacted by inflation.

Increases in inflation may have an adverse effect on us. Current and future inflationary effects may be driven by, among other things, supply chain disruptions and governmental stimulus or fiscal policies. Continuing increases in inflation could impact the commodity markets generally, the overall demand for our products and services, our costs for labor, material and services and the margins we are able to realize on our products, all of which could have an adverse impact on our business, financial position, results of operations and cash flows. Inflation may also result in higher interest rates, which in turn would result in higher interest expense related to our variable rate indebtedness and any borrowings we undertake to refinance existing fixed rate indebtedness.

We are subject to interruptions of supply and increased costs as a result of our reliance on third-party transportation of crude oil and refined products.

We utilize the services of third parties to transport crude oil and refined products to and from our refineries. In addition to our own operational risks, we could experience interruptions of supply or increases in costs to deliver refined products to market if the ability of the pipelines, railways or vessels to transport crude oil or refined products is disrupted or limited because of weather events, accidents, labor disputes, governmental regulations or third-party actions.

In particular, pipelines or railroads provide a nearly exclusive form of transportation of crude oil to, or refined products from, some of our refineries. A prolonged interruption, material reduction or cessation of service of such a pipeline or railway, whether due to private party or governmental action or other reason, or any other prolonged disruption of the ability of the trucks, pipelines, railways or vessels to transport crude oil or refined products to or from one or more of our refineries, can adversely affect us.

A significant decrease in oil and natural gas production in MPLX's areas of operation may adversely affect MPLX's business, financial condition, results of operations and cash available for distribution to its unitholders, including MPC.

A significant portion of MPLX's operations is dependent on the continued availability of natural gas and crude oil production. The production from oil and natural gas reserves and wells owned by its producer customers will naturally decline over time, which means that MPLX's cash flows associated with these wells will also decline over time. To maintain or increase throughput levels and the utilization rate of MPLX's facilities, MPLX must continually obtain new oil, natural gas, NGL and refined product supplies, which depend in part on the level of successful drilling activity near its facilities, its ability to compete for volumes from successful new wells and its ability to expand its system capacity as needed.

We have no control over the level of drilling activity in the areas of MPLX's operations, the amount of reserves associated with the wells or the rate at which production from a well will decline. In addition, we have no control over producers or their production decisions, which are affected by demand, prevailing and projected energy prices, drilling costs, operational challenges, access to downstream markets, the level of reserves, geological considerations, governmental regulations and the availability and cost of capital. Reductions in exploration or production activity in MPLX's areas of operations could lead to reduced throughput on its pipelines and utilization rates of its facilities.

Decreases in energy prices can lead to decreases in drilling activity, production rates and investments by third parties in the development of new oil and natural gas reserves. The prices for oil, natural gas and NGLs depend upon factors beyond our control, including global and local demand, production levels, changes in interstate pipeline gas quality specifications, imports and exports, seasonality and weather conditions, economic and political conditions domestically and internationally and governmental regulations. Sustained periods of low prices can result in producers deciding to limit their oil and gas drilling operations, which can substantially delay the production and delivery of volumes of oil, natural gas and NGLs to MPLX's facilities and adversely affect their revenues and cash available for distribution to us.

This impact may also be exacerbated due to the extent of MPLX's commodity-based contracts, which are more directly impacted by changes in natural gas and NGL prices than its fee-based contracts due to frac spread exposure and may result in operating losses when natural gas becomes more expensive on a Btu equivalent basis than NGL products. In addition, the purchase and resale of natural gas and NGLs in the ordinary course exposes our Midstream operations to volatility in natural gas or NGL prices due to the potential difference in the time of the purchases and sales and the potential difference in the price associated with each transaction, and direct exposure may also occur naturally as a result of production processes. Also, the significant volatility in natural gas, NGL and oil prices could adversely impact MPLX's unit price, thereby increasing its distribution yield and cost of capital. Such impacts could adversely impact MPLX's ability to execute its long-term organic growth projects, satisfy obligations to its customers and make distributions to unitholders at intended levels, and may also result in non-cash impairments of long-lived assets or goodwill or other-than-temporary non-cash impairments of our equity method investments.

Severe weather events, other climate conditions and earth movement and other geological hazards may adversely affect our assets and ongoing operations.

Our assets are subject to acute physical risks, such as floods, hurricane-force winds, wildfires, winter storms, and earth movement in variable, steep and rugged terrain and terrain with varied or changing subsurface conditions, and chronic physical risks, such as sea-level rise or water shortages. For example, in 2021, our Galveston Bay refinery was adversely affected by Winter Storm Uri and our Garyville refinery was adversely affected by Hurricane Ida. The occurrence of these and similar events have had, and may in the future have, an adverse effect on our assets and operations. We have incurred and will continue to incur additional costs to protect our assets and operations from such physical risks and employ the evolving technologies and processes available to mitigate such risks. To the extent such severe weather events or other climate conditions increase in frequency and severity, we may be required to modify operations and incur costs that could materially and adversely affect our business, financial condition, results of operations and cash flows.

We are subject to risks arising from our operations outside the United States and generally to worldwide political and economic developments.

We operate and sell some of our products outside the United States. Our business, financial condition, results of operations and cash flows could be negatively impacted by disruptions in any of these markets, including economic instability, restrictions on the transfer of funds, supply chain disruptions, duties and tariffs, transportation delays, difficulty in enforcing contractual provisions, import and export controls, changes in governmental policies, political and social unrest, security issues involving key personnel and changing regulatory and political environments. Future outbreaks of infectious diseases or pandemics could affect demand for refined products and economic conditions generally, as the COVID-19 pandemic has done in recent years. In addition, the deterioration of trade relationships, modification or termination of existing trade agreements, imposition of new economic sanctions against Russia or other countries and the effects of potential responsive countermeasures, or increased taxes, border adjustments or tariffs can make international business operations more costly, which can have a material adverse effect on our business, financial condition, results of operations and cash flows.

We are required to comply with U.S. and international laws and regulations, including those involving anti-bribery, anti-corruption and anti-money laundering. Our training and compliance program and our internal control policies and procedures may not always protect us from violations committed by our employees or agents. Actual or alleged violations of these laws could disrupt our business and cause us to incur significant legal expenses, and could result in a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

More broadly, political and economic factors in global markets could impact crude oil and other feedstock supplies and could have a material adverse effect on us in other ways. Hostilities in the Middle East, Russia or elsewhere or the occurrence or threat of future terrorist attacks could adversely affect the economies of the U.S. and other countries. Lower levels of economic activity often result in a decline in energy consumption, which may cause our revenues and margins to decline and limit our future growth prospects. These risks could lead to increased volatility in prices for refined products, NGLs and natural gas. Additionally, these risks could increase instability in the financial and insurance markets and make it more difficult or costly for us to access capital and to obtain the insurance coverage that we consider adequate. Additionally, tax policy, legislative or regulatory action and commercial restrictions could reduce our operating profitability. For example, the U.S. government could prevent or restrict exports of refined products, NGLs, natural gas or the conduct of business in or with certain foreign countries. In addition, foreign countries could restrict imports, investments or commercial transactions or revoke or refuse to grant necessary permits.

Our investments in joint ventures could be adversely affected by our reliance on our joint venture partners and their financial condition, and our joint venture partners may have interests or goals that are inconsistent with ours.

We conduct some of our operations through joint ventures in which we share control over certain economic and business interests with our joint venture partners. Our joint venture partners may have economic, business or legal interests or goals that are inconsistent with our goals and interests or may be unable to meet their obligations. Failure by us, or an entity in which we have an interest, to adequately manage the risks associated with any acquisitions or joint ventures could have a material adverse effect on the financial condition or results of operations of our joint ventures and adversely affect our reputation, business, financial condition, results of operations and cash flows.

Terrorist attacks or other targeted operational disruptions may affect our facilities or those of our customers and suppliers.

Refining, gathering and processing, pipeline and terminal infrastructure, and other energy assets, may be the subject of terrorist attacks or other targeted operational disruptions. Any attack or targeted disruption of our operations, those of our customers or, in some cases, those of other energy industry participants, could have a material and adverse effect on our business. Similarly, any similar event that severely disrupts the markets we serve could materially and adversely affect our results of operations, financial position and cash flows.

Financial Risks

We have significant debt obligations; therefore, our business, financial condition, results of operations and cash flows could be harmed by a deterioration of our credit profile or downgrade of our credit ratings, a decrease in debt capacity or unsecured commercial credit available to us, or by factors adversely affecting credit markets generally.

At December 31, 2022, our total debt obligations for borrowed money and finance lease obligations were $27.08 billion, including $20.11 billion of obligations of MPLX and its subsidiaries. We may incur substantial additional debt obligations in the future.

Our indebtedness may impose various restrictions and covenants on us that could have material adverse consequences, including:

- increasing our vulnerability to changing economic, regulatory and industry conditions;
- limiting our ability to compete and our flexibility in planning for, or reacting to, changes in our business and the industry;

- limiting our ability to pay dividends to our stockholders;
- limiting our ability to borrow additional funds; and
- requiring us to dedicate a substantial portion of our cash flow from operations to payments on our debt, thereby reducing funds available for working capital, capital expenditures, acquisitions, share repurchases, dividends and other purposes.

A decrease in our debt or commercial credit capacity, including unsecured credit extended by third-party suppliers, or a deterioration in our credit profile could increase our costs of borrowing money and limit our access to the capital markets and commercial credit. Our credit rating is determined by independent credit rating agencies. We cannot provide assurance that any of our credit ratings will remain in effect for any given period of time or that a rating will not be lowered or withdrawn entirely by a rating agency if, in its judgment, circumstances so warrant. Any changes in our credit capacity or credit profile could materially and adversely affect our business, financial condition, results of operations and cash flows.

Significant variations in the market prices of crude oil and refined products can affect our financial performance.

During 2020, there were significant variations in the market prices of products held in our inventories. Those significant variations required us to record either inventory valuation charges or benefits to reflect the valuation of our inventories at the lower of cost or market. Future inventory valuation adjustments could have a negative or positive effect on our financial performance. In addition, a sustained period of low crude oil prices may also result in significant financial constraints on certain producers from which we acquire our crude oil, which could result in long term crude oil supply constraints for our business. Such conditions could also result in an increased risk that our customers and other counterparties may be unable to fully fulfill their obligations in a timely manner, or at all.

A continued period of economic slowdown or recession, or a protracted period of depressed prices for crude oil or refined petroleum products, could have significant and adverse consequences for our financial condition and the financial condition of our customers, suppliers and other counterparties, and could diminish our liquidity, trigger additional impairments and negatively affect our ability to obtain adequate crude oil volumes and to market certain of our products at favorable prices, or at all.

Our working capital, cash flows and liquidity can be significantly affected by decreases in commodity prices.

Payment terms for our crude oil purchases are generally longer than the terms we extend to our customers for refined product sales. As a result, the payables for our crude oil purchases are proportionally larger than the receivables for our refined product sales. Due to this net payables position, a decrease in commodity prices generally results in a use of working capital, and given the significant volume of crude oil that we purchase the impact can materially affect our working capital, cash flows and liquidity.

Increases in interest rates could adversely impact our share price, our ability to issue equity or incur debt for acquisitions or other purposes and our ability to make dividends at our intended levels.

Our revolving credit facility has a variable interest rate. As a result, future interest rates on our debt could be higher than current levels, causing our financing costs to increase accordingly. In addition, we may in the future refinance outstanding borrowings under our revolving credit facility with fixed-rate indebtedness. Interest rates payable on fixed-rate indebtedness typically are higher than the short-term variable interest rates that we pay on borrowings under our revolving credit facility. We also have other fixed-rate indebtedness that we may need or desire to refinance in the future at or prior to the applicable stated maturity. A rising interest rate environment could have an adverse impact on our share price and our ability to issue equity or incur debt for acquisitions or other purposes and to make dividends at our intended levels.

We may incur losses and additional costs as a result of our forward-contract activities and derivative transactions.

We currently use commodity derivative instruments, and we expect to continue their use in the future. If the instruments we use to hedge our exposure to various types of risk are not effective, we may incur losses. Derivative transactions involve the risk that counterparties may be unable to satisfy their obligations to us. The risk of counterparty default is heightened in a poor economic environment. In addition, we may be required to incur additional costs in connection with future regulation of derivative instruments to the extent it is applicable to us.

We do not insure against all potential losses, and, therefore, our business, financial condition, results of operations and cash flows could be adversely affected by unexpected liabilities and increased costs.

We maintain insurance coverage in amounts we believe to be prudent against many, but not all, potential liabilities arising from operating hazards. Uninsured liabilities arising from operating hazards such as explosions, fires, refinery or pipeline releases, cybersecurity breaches or other incidents involving our assets or operations can reduce the funds available to us for capital and investment spending and could have a material adverse effect on our business, financial condition, results of operations and cash flows. Historically, we also have maintained insurance coverage for physical damage and resulting business interruption to our major facilities, with significant self-insured retentions. In the future, we may not be able to maintain insurance of the types and amounts we desire at reasonable rates.

We have recorded goodwill and other intangible assets that could become further impaired and result in material non-cash charges to our results of operations.

We accounted for the Andeavor and other acquisitions using the acquisition method of accounting, which requires that the assets and liabilities of the acquired business be recorded to our balance sheet at their respective fair values as of the acquisition date. Any excess of the purchase consideration over the fair value of the acquired net assets is recognized as goodwill.

As of December 31, 2022, our balance sheet reflected $8.2 billion and $1.9 billion of goodwill and other intangible assets, respectively. We have in the past recorded significant impairments of our goodwill. To the extent the value of goodwill or intangible assets becomes further impaired, we may be required to incur additional material non-cash charges relating to such impairment. Our operating results may be significantly impacted from both the impairment and the underlying trends in the business that triggered the impairment.

Large capital projects can be subject to delays, take years to complete, and market conditions could deteriorate significantly between the project approval date and the project startup date, negatively impacting project returns.

We have several large capital projects underway, including the activities associated with the conversion of the Martinez refinery to a renewable diesel facility. Delays in completing capital projects or making required changes or upgrades to our facilities could subject us to fines or penalties as well as affect our ability to supply certain products we produce. Such delays or cost increases may arise as a result of unpredictable factors, many of which are beyond our control, including:

- denials of, delays in receiving, or revocations of requisite regulatory approvals or permits;
- unplanned increases in the cost of construction materials or labor, whether due to inflation or other factors;
- disruptions in transportation of components or construction materials;
- adverse weather conditions, natural disasters or other events (such as equipment malfunctions, explosions, fires or spills) affecting our facilities, or those of vendors or suppliers;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages;
- market-related increases in a project's debt or equity financing costs;
- global supply chain disruptions;
- nonperformance by, or disputes with, vendors, suppliers, contractors or subcontractors; and
- delays due to citizen, state or local political or activist pressure.

Moreover, our revenues may not increase immediately upon the expenditure of funds on a particular project. For instance, if we build a new pipeline, the construction will occur over an extended period of time and we may not receive any material increases in revenues until after completion of the project, if at all.

Any one or more of these factors could have a significant impact on our ongoing capital projects. If we were unable to make up the delays associated with such factors or to recover the related costs, or if market conditions change, it could materially and adversely affect our capital project returns and our business, financial condition, results of operations and cash flows.

Legal and Regulatory Risks

We expect to continue to incur substantial capital expenditures and operating costs to meet the requirements of evolving environmental or other laws or regulations. Future environmental laws and regulations may impact our current business plans and reduce demand for our products and services.

Our business is subject to numerous environmental laws and regulations. These laws and regulations continue to increase in both number and complexity and affect our business. Laws and regulations expected to become more stringent relate to the following:

- the emission or discharge of materials into the environment,
- solid and hazardous waste management,
- the regulatory classification of materials currently or formerly used in our business,
- pollution prevention,
- climate change and GHG emissions,
- characteristics and composition of transportation fuels, including the quantity of renewable fuels that must be blended into transportation fuels,
- public and employee safety and health,
- permitting,
- inherently safer technology, and
- facility security.

The specific impact of laws and regulations on us and our competitors may vary depending on a number of factors, including the age and location of operating facilities, marketing areas, crude oil and feedstock sources, production processes and subsequent judicial interpretation of such laws and regulations. We have incurred and will continue to incur substantial capital, operating and maintenance, and remediation expenditures to modify operations, install pollution control equipment, perform site cleanups or curtail operations. We have incurred and may in the future incur liability for personal injury, property damage, natural resource damage or clean-up costs due to alleged contamination and/or exposure to chemicals such as benzene and MTBE. There is also increased regulatory interest in per- and polyfluoroalkyl substances ("PFAS"), which we expect will lead to increased monitoring and remediation obligations and potential liability related thereto. Such expenditures could materially and adversely affect our business, financial condition, results of operations and cash flows.

Increased regulation of hydraulic fracturing and other oil and gas production activities could result in reductions or delays in U.S. production of crude oil and natural gas, which could adversely affect our results of operations and financial condition.

While we do not conduct hydraulic fracturing operations, we do provide gathering, processing and fractionation services with respect to natural gas and natural gas liquids produced by our customers as a result of such operations. Our refineries are also supplied in part with crude oil produced from unconventional oil shale reservoirs. A range of federal, state and local laws and regulations currently govern or, in some cases, prohibit, hydraulic fracturing in some jurisdictions. Stricter laws, regulations and permitting processes may be enacted in the future. If federal, state and local legislation and regulatory initiatives relating to hydraulic fracturing or other oil and gas production activities are enacted or expanded, such efforts could impede oil and gas production, increase producers' cost of compliance, and result in reduced volumes available for our midstream assets to gather, process and fractionate.

The tax treatment of publicly traded partnerships or an investment in MPLX units could be subject to potential legislative, judicial or administrative changes and differing interpretations, possibly on a retroactive basis.

The present U.S. federal income tax treatment of publicly traded partnerships, including MPLX, or an investment in MPLX common units may be modified by administrative, legislative or judicial interpretation at any time. From time to time, the President and members of the U.S. Congress propose and consider substantive changes to the existing U.S. federal income tax laws that would affect publicly traded partnerships, including proposals that would eliminate MPLX's ability to qualify for partnership tax treatment.

We are unable to predict whether any such changes will ultimately be enacted. Any modification to the U.S. federal income tax laws and interpretations thereof may or may not be applied retroactively and could make it more difficult or impossible for MPLX to meet the exception for certain publicly traded partnerships to be treated as partnerships for U.S. federal income tax purposes or increase the amount of taxes payable by unitholders in publicly traded partnerships.

Climate change and GHG emission regulation could affect our operations, energy consumption patterns and regulatory obligations, any of which could affect our results of operations and financial condition.

Currently, multiple legislative and regulatory measures to address GHG (including carbon dioxide, methane and nitrous oxides) and other emissions are in various phases of consideration, promulgation or implementation. These include actions to develop international, federal, regional or statewide programs, which could require reductions in our GHG or other emissions, establish a carbon tax and decrease the demand for refined products. Requiring reductions in these emissions could result in increased costs to (i) operate and maintain our facilities, (ii) install new emission controls at our facilities and (iii) administer and manage any emissions programs, including acquiring emission credits or allotments.

For example, California and Washington have enacted cap-and-trade programs. Other states are proposing, or have already promulgated, low carbon fuel standards or similar initiatives to reduce emissions from the transportation sector. If we are unable to pass the costs of compliance on to our customers, sufficient credits are unavailable for purchase, we have to pay a significantly higher price for credits, or if we are otherwise unable to meet our compliance obligation, our financial condition and results of operations could be adversely affected.

Certain municipalities have also proposed or enacted restrictions on the installation of natural gas appliances and infrastructure in new residential or commercial construction, which could affect demand for the natural gas that MPLX transports and stores.

Regional and state climate change and air emissions goals and regulatory programs are complex, subject to change and considerable uncertainty due to a number of factors including technological feasibility, legal challenges and potential changes in federal policy. Increasing concerns about climate change and carbon intensity have also resulted in societal concerns and a number of international and national measures to limit GHG emissions. Additional stricter measures and investor pressure can be expected in the future and any of these changes may have a material adverse impact on our business or financial condition.

International climate change-related efforts, such as the 2015 United Nations Conference on Climate Change, which led to the creation of the Paris Agreement, may impact the regulatory framework of states whose policies directly influence our present and future operations. Though the United States had withdrawn from the Paris Agreement, President Biden issued an executive order recommitting the United States to the Paris Agreement on January 20, 2021. President Biden also issued an Executive Order on climate change in which he announced putting the U.S. on a path to achieve net-zero carbon emissions, economy-wide, by 2050. The Executive Order also calls for the federal government to pause oil and gas leasing on federal lands, reduce methane emissions from the oil and gas sector as quickly as possible, and requires federal permitting decisions to consider the effects of GHG emissions and climate change. In a second Executive Order, President Biden reestablished a working group to develop the social cost of carbon and the social cost of methane. The social cost of carbon and social cost of methane can be used to weigh the costs and benefits of proposed regulations. A higher social cost of carbon could support more stringent GHG emission regulation.

The scope and magnitude of the changes to U.S. climate change strategy under the Biden administration and future administrations, however, remain subject to the passage of legislation and interpretation and action of federal and state regulatory bodies; therefore, the impact to our industry and operations due to GHG regulation is unknown at this time.

Energy companies are subject to increasing environmental and climate-related litigation.

Governmental and other entities in various U.S. states have filed lawsuits against various energy companies, including us. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. Similar lawsuits may be filed in other jurisdictions. Additionally, private plaintiffs and government parties have undertaken efforts to shut down energy assets by challenging operating permits, the validity of easements or the compliance with easement conditions. For example, the Dakota Access Pipeline, in which MPLX has a minority interest, has been subject to, and may in the future be subject to, litigation seeking a permanent shutdown of the pipeline. There remains a high degree of uncertainty regarding the ultimate outcome of these types of proceedings, as well as their potential effect on our business, financial condition, results of operation and cash flows.

We are subject to risks associated with societal and political pressures and other forms of opposition to the development, transportation and use of carbon-based fuels. Such risks could adversely impact our business and ability to realize certain growth strategies.

We operate and develop our business with the expectation that regulations and societal sentiment will continue to enable the development, transportation and use of carbon-based fuels. However, policy decisions relating to the production, refining, transportation, storage and marketing of carbon-based fuels are subject to political pressures and the influence of public sentiment on GHG emissions, climate change, and climate adaptation. Additionally, societal sentiment regarding carbon-based fuels may adversely impact our reputation and ability to attract and retain employees.

The approval process for storage and transportation projects has become increasingly challenging, due in part to state and local concerns related to pipelines, negative public perception regarding the oil and gas industry, and concerns regarding GHG emissions downstream of pipeline operations. Our expansion or construction projects may not be completed on schedule (or at all), or at the budgeted cost. We also may be required to incur additional costs and expenses in connection with the design and installation of our facilities due to their location and the surrounding terrain. We may be required to install additional facilities, incur additional capital and operating expenditures, or experience interruptions in or impairments of our operations to the extent that the facilities are not designed or installed correctly.

Increasing attention to environmental, social and governance matters may impact our business and financial results.

In recent years, increasing attention has been given to corporate activities related to ESG matters in public discourse and the investment community. A number of advocacy groups, both domestically and internationally, have campaigned for governmental and private action to promote ESG-related change at public companies, including, but not limited to, through the investment and voting practices of investment advisers, pension funds, universities and other members of the investing community. These activities include increasing attention and demands for action related to climate change and energy transition matters, such as promoting the use of substitutes to fossil fuel products and encouraging the divestment of fossil fuel equities, as well as pressuring lenders and other financial services companies to limit or curtail activities with fossil fuel companies. If this were to continue, it could have a material adverse effect on our access to capital. Members of the investment community have begun to screen companies such as ours for sustainability performance, including practices related to GHG emission reduction and energy transition strategies. If we are unable to find economically viable, as well as publicly acceptable, solutions that reduce our GHG emissions, reduce GHG intensity for new and existing projects, increase our non-fossil fuel product portfolio, and/or address other ESG-related stakeholder concerns, our business and results of operations could be materially and adversely affected.

Our goals, targets and disclosures related to ESG matters expose us to numerous risks, including risks to our reputation and stock price.

Companies across all industries are facing increasing scrutiny from stakeholders related to ESG matters, including practices and disclosures regarding climate-related initiatives. In 2022, MPC established a target to reduce GHG emissions and MPLX established a target to reduce methane emissions intensity. These targets reflect our current plans and aspirations and are not guarantees that we will be able to achieve them. Our efforts to accomplish and accurately report on these goals and objectives, which may be, in part, dependent on the actions of suppliers and other third parties, present numerous operational, regulatory, reputational, financial, legal, and other risks, any of which could have a material negative impact, including on our reputation and stock price.

Efforts to achieve goals and targets, such as the foregoing and future internal climate-related initiatives, may increase costs, require purchase of carbon credits, or limit or impact our business plans and financial results, potentially resulting in the reduction to the economic end-of-life of certain assets and an impairment of the associated net book value, among other material adverse impacts. Additionally, as the nature, scope and complexity of ESG reporting, calculation methodologies, voluntary reporting standards and disclosure requirements expand, including the SEC's proposed disclosure requirements regarding, among other matters, GHG emissions, we may have to undertake additional costs to control, assess and report on ESG metrics. Our failure or perceived failure to pursue or fulfill such goals and targets or to satisfy various reporting standards within the timelines we announce, or at all, could have a negative impact on investor sentiment, ratings outcomes for evaluating our approach to ESG matters, stock price, and cost of capital and expose us to government enforcement actions and private litigation, among other material adverse impacts.

Regulatory and other requirements concerning the transportation of crude oil and other commodities by rail may cause increases in transportation costs or limit the amount of crude oil that we can transport by rail.

We rely on a variety of systems to transport crude oil, including rail. Rail transportation is regulated by federal, state and local authorities. New regulations or changes in existing regulations could result in increased compliance expenditures. For example, in 2015, the U.S. Department of Transportation issued new standards and regulations applicable to crude-by-rail transportation (Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains). These or other regulations that require the reduction of volatile or flammable constituents in crude oil that is transported by rail, change the design or standards for rail cars used to transport the crude oil we purchase, change the routing or scheduling of trains carrying crude oil, or require any other changes that detrimentally affect the economics of delivering North American crude oil by rail could increase the time required to move crude oil from production areas to our refineries, increase the cost of rail transportation and decrease the efficiency of shipments of crude oil by rail within our operations. Any of these outcomes could have a material adverse effect on our business and results of operations.

Historic or current operations could subject us to significant legal liability or restrict our ability to operate.

We currently are defending litigation and anticipate we will be required to defend new litigation in the future. Our operations, including those of MPLX, and those of our predecessors could expose us to litigation and civil claims by private plaintiffs for alleged damages related to contamination of the environment or personal injuries caused by releases of hazardous substances from our facilities, products liability, consumer credit or privacy laws, product pricing or antitrust laws or any other laws or regulations that apply to our operations. While an adverse outcome in most litigation matters would not be expected to be material to us, in class-action litigation, large classes of plaintiffs may allege damages relating to extended periods of time or other alleged facts and circumstances that could increase the amount of potential damages. Attorneys general and other government officials have in the past and may in the future pursue litigation in which they seek to recover civil damages from companies on behalf of a state or its citizens for a variety of claims, including violation of consumer protection and product pricing laws or natural resources damages. If we are not able to successfully defend such litigation, it may result in liability to our company that could materially and adversely affect our business, financial condition, results of operations and cash flows. In addition to substantial liability, plaintiffs in litigation may also seek injunctive relief which, if imposed, could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

A portion of our workforce is unionized, and we may face labor disruptions that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Approximately 3,755 of our employees are covered by collective bargaining agreements. Approximately 2,545 refinery employees are covered by collective bargaining agreements with expiration dates ranging from 2023 to 2027. These agreements may be renewed at an increased cost to us. In addition, we have experienced in the past, and may experience in the future, work stoppages as a result of labor disagreements. Any prolonged work stoppages disrupting operations could have a material adverse effect on our business, financial condition, results of operations and cash flows.

In addition, California requires refinery owners to pay prevailing wages to contract craft workers and restricts refiners' ability to hire qualified employees to a limited pool of applicants. Legislation or changes in regulations could result in labor shortages, higher labor costs, and an increased risk that contract workers become joint employees, which could trigger bargaining issues, and wage and benefit consequences, especially during critical maintenance and construction periods.

One of our subsidiaries acts as the general partner of a master limited partnership, which may expose us to certain legal liabilities.

One of our subsidiaries acts as the general partner of MPLX, a master limited partnership. Our control of the general partner of MPLX may increase the possibility of claims of breach of fiduciary duties, including claims of conflicts of interest. Any liability resulting from such claims could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

If foreign investment in us or MPLX exceeds certain levels, we could be prohibited from operating vessels engaged in U.S. coastwise trade, which could adversely affect our business, financial condition, results of operations and cash flows.

The Shipping Act of 1916 and Merchant Marine Act of 1920 (collectively, the "Maritime Laws"), generally require that vessels engaged in U.S. coastwise trade be owned by U.S. citizens. Among other requirements to establish citizenship, entities that own such vessels must be owned at least 75 percent by U.S. citizens. If we fail to maintain compliance with the Maritime Laws, we would be prohibited from operating vessels in the U.S. inland waters or otherwise in U.S. coastwise trade. Such a prohibition could materially and adversely affect our business, financial condition, results of operations and cash flows.

Our operations could be disrupted if we are unable to maintain or obtain real property rights required for our business.

We do not own all of the land on which certain of our assets are located, particularly our midstream assets, but rather obtain the rights to construct and operate such assets on land owned by third parties and governmental agencies for a specific period of time. Therefore, we are subject to the possibility of more burdensome terms and increased costs to retain necessary land use if our leases, rights-of-way or other property rights lapse, terminate or are reduced or it is determined that we do not have valid leases, rights-of-way or other property rights. For example, a portion of the Tesoro High Plains pipeline in North Dakota remains shut down following delays in renewing a right-of-way necessary for the operation of a section of the pipeline. Any loss of or reduction in our real property rights, including loss or reduction due to legal, governmental or other actions or difficulty renewing leases, right-of-way agreements or permits on satisfactory terms or at all, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Certain of our facilities are located on Native American tribal lands and are subject to various federal and tribal approvals and regulations, which can increase our costs and delay or prevent our efforts to conduct operations.

Various federal agencies within the U.S. Department of the Interior, particularly the Bureau of Indian Affairs, along with each Native American tribe, regulate natural gas and oil operations on Native American tribal lands. In addition, each Native American tribe is a sovereign nation having the right to enforce laws and regulations and to grant approvals independent from federal, state and local statutes and regulations. These tribal laws and regulations include various taxes, fees, requirements to employ Native American tribal members and other conditions that apply to operators and contractors conducting operations on Native American tribal lands. Persons conducting operations on tribal lands are generally subject to the Native American tribal court system. In addition, if our relationships with any of the relevant Native American tribes were to deteriorate, we could face significant risks to our ability to continue operations on Native American tribal lands. One or more of these factors has in the past and may in the future increase our cost of doing business on Native American tribal lands and impact the viability of, or prevent or delay our ability to conduct operations on such lands. For example, we are subject to ongoing litigation regarding trespass claims relating to a portion of the Tesoro High Plains pipeline in North Dakota.

The Court of Chancery of the State of Delaware will be, to the extent permitted by law, the sole and exclusive forum for substantially all disputes between us and our shareholders.

Our Restated Certificate of Incorporation provides that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for:

- any derivative action or proceeding brought on behalf of MPC;
- any action asserting a claim of breach of a fiduciary duty owed by any director or officer of MPC to MPC or its stockholders
- any action asserting a claim against MPC arising pursuant to any provision of the General Corporation Law of the State of Delaware, MPC’s Restated Certificate of Incorporation, any Preferred Stock Designation or the Bylaws of MPC; or
- any other action asserting a claim against MPC or any Director or officer of MPC that is governed by or subject to the internal affairs doctrine for choice of law purposes.

The forum selection provision may restrict a stockholder’s ability to bring a claim against us or directors or officers of MPC in a forum that it finds favorable, which may discourage stockholders from bringing such claims at all. Alternatively, if a court were to find the forum selection provision contained in our Restated Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in another forum, which could materially adversely affect our business, financial condition and results of operations. However, the forum selection provision does not apply to any claims, actions or proceedings arising under the Securities Act or the Exchange Act.

Provisions in our corporate governance documents could operate to delay or prevent a change in control of our company, dilute the voting power or reduce the value of our capital stock or affect its liquidity.

The existence of some provisions within our restated certificate of incorporation and amended and restated bylaws could discourage, delay or prevent a change in control of us that a stockholder may consider favorable. These include provisions:

- providing that our board of directors fixes the number of members of the board;
- providing for the division of our board of directors into three classes with staggered terms;
- providing that only our board of directors may fill board vacancies;
- limiting who may call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring stockholder action to be taken at a meeting of the stockholders;
- establishing advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings;
- establishing supermajority vote requirements for certain amendments to our restated certificate of incorporation;

- providing that our directors may only be removed for cause;
- authorizing a large number of shares of common stock that are not yet issued, which would allow our board of directors to issue shares to persons friendly to current management, thereby protecting the continuity of our management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us; and
- authorizing the issuance of “blank check” preferred stock, which could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt.

Our restated certificate of incorporation also authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences and relative, participating, optional and other special rights, including preferences over our common stock respecting dividends and distributions, as our board of directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, we could grant holders of preferred stock the right to elect some number of our board of directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of our common stock.

Finally, to facilitate compliance with the Maritime Laws, our restated certificate of incorporation limits the aggregate percentage ownership by non-U.S. citizens of our common stock or any other class of our capital stock to 23 percent of the outstanding shares. We may prohibit transfers that would cause ownership of our common stock or any other class of our capital stock by non-U.S. citizens to exceed 23 percent. Our restated certificate of incorporation also authorizes us to effect any and all measures necessary or desirable to monitor and limit foreign ownership of our common stock or any other class of our capital stock. These limitations could have an adverse impact on the liquidity of the market for our common stock if holders are unable to transfer shares to non-U.S. citizens due to the limitations on ownership by non-U.S. citizens. Any such limitation on the liquidity of the market for our common stock could adversely impact the market price of our common stock.

Strategic Transaction Risks

Following the Speedway sale, our diminished diversification of revenue sources may adversely affect our results of operations and financial condition.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven. Following the completion of the sale, our diversification of revenue sources diminished, and our business, financial condition, results of operations and cash flows may be subject to increased volatility as a result.

General Risk Factors

Significant stockholders may attempt to effect changes at our company or acquire control over our company, which could impact the pursuit of business strategies and adversely affect our results of operations and financial condition.

Our stockholders may from time to time engage in proxy solicitations, advance stockholder proposals or otherwise attempt to effect changes or acquire control over our company. Campaigns by stockholders to effect changes at publicly traded companies are sometimes led by investors seeking to increase short-term stockholder value through actions such as financial restructuring, increased debt, special dividends, stock repurchases or sales of assets or the entire company. Responding to proxy contests and other actions by activist stockholders can be costly and time-consuming and could divert the attention of our board of directors and senior management from the management of our operations and the pursuit of our business strategies. As a result, stockholder campaigns could adversely affect our results of operations and financial condition.

Future acquisitions will involve the integration of new assets or businesses and may present substantial risks that could adversely affect our business, financial conditions, results of operations and cash flows.

Future transactions involving the addition of new assets or businesses will present risks, which may include, among others:

- inaccurate assumptions about future synergies, revenues, capital expenditures and operating costs;
- an inability to successfully integrate, or a delay in the successful integration of, assets or businesses we acquire;
- a decrease in our liquidity resulting from using a portion of our available cash or borrowing capacity under our revolving credit agreement to finance transactions;
- a significant increase in our interest expense or financial leverage if we incur additional debt to finance transactions;
- the assumption of unknown environmental and other liabilities, losses or costs for which we are not indemnified or for which our indemnity is inadequate;
- the diversion of management’s attention from other business concerns;
- the loss of customers or key employees from the acquired business; and
- the incurrence of other significant charges, such as impairment of goodwill or other intangible assets, asset devaluation or restructuring charges.

Compliance with and changes in tax laws could materially and adversely impact our financial condition, results of operations and cash flows.

We are subject to extensive tax liabilities, including federal, state and local income taxes in the United States and in foreign jurisdictions, and, transactional, payroll, franchise, withholding and property taxes. New tax laws and regulations and changes in, interpretations of, and guidance regarding tax laws and regulations, including impacts of the Tax Cuts and Jobs Act of 2017, the Coronavirus Aid, Relief, Economic Security Act of 2020, and the Inflation Reduction Act of 2022, could result in increased expenditures by us for tax liabilities in the future and could materially and adversely impact our financial condition, results of operations and cash flows.

In addition, we are subject to the examination of our returns by taxing authorities. We regularly assess the likelihood of adverse outcomes resulting from such examinations to determine the adequacy of our provision for income taxes. Although we believe we have made appropriate provisions for taxes in the jurisdictions in which we operate, changes in the tax laws or challenges from tax authorities under existing tax laws could adversely affect our business, financial condition and results of operations and could subject us to interest and penalties.

Item 1B. Unresolved Staff Comments

None

Item 2. Properties

We believe that our properties and facilities are adequate for our operations and that our facilities are adequately maintained. See the following sections for details of our assets by segment.

REFINING & MARKETING

The table below sets forth the location and crude oil refining capacity for each of our refineries as of December 31, 2022. Refining throughput can exceed crude oil refining capacity due to the processing of other charge and blendstocks in addition to crude oil and the timing of planned turnaround and major maintenance activity.

Refinery	Crude Oil Refining Capacity (*mbpcd*)
Gulf Coast Region	
Garyville, Louisiana	596
Galveston Bay, Texas City, Texas	593
Subtotal Gulf Coast region	1,189
Mid-Continent Region	
Catlettsburg, Kentucky	291
Robinson, Illinois	253
Detroit, Michigan	140
El Paso, Texas	133
St. Paul Park, Minnesota	105
Canton, Ohio	100
Mandan, North Dakota	71
Salt Lake City, Utah	66
Subtotal Mid-Continent region	1,159
West Coast Region	
Los Angeles, California	363
Anacortes, Washington	119
Kenai, Alaska	68
Subtotal West Coast region	550
Total	2,898

The Dickinson, North Dakota, renewable fuels facility has the capacity to produce 184 million gallons per year of renewable diesel from corn oil, soybean oil, fats and greases. MPC is currently in the process of converting the Martinez refinery to a renewable diesel facility. The full capacity of the Martinez facility is expected to be approximately 730 million gallons per year.

The following table sets forth the approximate number of locations where jobbers maintain branded outlets, marketing fuels under the Marathon, ARCO, Shell, Mobil, Tesoro and other brands, as of December 31, 2022.

Location	Number of Branded Outlets
Alabama	404
Alaska	54
Arizona	79
Arkansas	1
California	114
Colorado	12
District of Columbia	2
Florida	639
Georgia	400
Idaho	105
Illinois	183
Indiana	640
Iowa	4
Kentucky	515
Louisiana	57
Maryland	60
Massachusetts	1
Mexico	281
Michigan	732
Minnesota	299
Mississippi	118
Nevada	19
New Mexico	38
New York	62
North Carolina	208
North Dakota	119
Ohio	811
Oregon	43
Pennsylvania	85
Rhode Island	3
South Carolina	102
South Dakota	33
Tennessee	407
Texas	11
Utah	109
Virginia	192
Washington	95
West Virginia	109
Wisconsin	58
Wyoming	5
Total	7,209

The Refining & Marketing segment sells transportation fuels through long-term fuel supply contracts to direct dealer locations, primarily under the ARCO brand. The following table sets forth the number of direct dealer locations by state as of December 31, 2022.

Location	Number of Locations
Arizona	69
California	1,035
Nevada	68
Total	1,172

The following table sets forth details about our Refining & Marketing owned and operated terminals as of December 31, 2022. See the Midstream - MPLX section for information with respect to MPLX owned and operated terminals.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (*thousand barrels*)
Light Products Terminals:		
Alaska	1	231
New York	1	352
Subtotal light products terminals	2	583
Asphalt Terminals:		
Florida	1	263
Indiana	1	121
Kentucky	4	549
Louisiana	1	54
Michigan	1	12
New York	1	417
Ohio	4	2,207
Pennsylvania	1	451
Tennessee	2	480
Subtotal asphalt terminals	16	4,554
Total owned and operated terminals	18	5,137

MIDSTREAM - MPLX

The following table sets forth certain information relating to MPLX's crude oil and refined products pipeline systems and storage assets as of December 31, 2022.

Pipeline System or Storage Asset	Diameter (*inches*)	Length *(miles)*	Capacity
Total crude oil pipeline systems[a][b]	2" - 42"	5,135	Various
Total refined products pipeline systems[a][b][c]	4" - 36"	3,732	Various
Barge Docks *(mbpd)*			4,834
Storage assets: *(mbbls)*			
Refining Logistics[d]			93,493
Tank Farms			33,190
Caverns			4,209

[a] Includes approximately 16 miles of crude pipeline and 2 miles of refined product pipeline leased from third parties.

[b] Includes approximately 1,173 miles of inactive crude pipeline and 203 miles of inactive refined product pipeline.

[c] Includes approximately 87 miles and 17 miles of refined product pipelines in which MPLX has partial ownership of 65% and 50%, respectively.

[d] Refining logistics assets primarily include tankage. During 2022, MPC formed the Martinez Renewables joint venture and is currently in the process of converting the Martinez refinery to a renewable diesel facility. MPLX owns refining logistics assets with 5,809 mbbls of storage capacity associated with the facility and has entered into terminalling and storage service agreements with the joint venture and its partners to provide logistics services for the facility.

The following table sets forth information regarding the pipeline systems which MPLX has an interest in through ownership of its equity method investments as of December 31, 2022.

	Diameter (*inches*)	Length *(miles)*	Ownership Percentage
Crude Systems:			
MarEn Bakken Company LLC[a]	30"	1,916	25%
Minnesota Pipe Line Company LLC	16"-24"	975	17%
Wink to Webster Holdings LLC	36"	522	11%
Illinois Extension Pipeline Company LLC	24"	168	35%
Andeavor Logistics Rio Pipeline LLC	12"	119	67%
LOCAP LLC	48"	57	59%
LOOP LLC	48"	48	41%
Refined Product Systems:			
Explorer Pipeline Company	12" - 28"	1,826	25%
Natural Gas and NGL Systems:			
Whistler Pipeline LLC	36" - 42"	498	38%
BANGL LLC[a]	12" - 24"	109	25%

[a] The investment in MarEn Bakken Company LLC includes MPLX's 9.19 percent indirect interest in a joint venture that owns and operates the Dakota Access Pipeline and Energy Transfer Crude Oil Pipeline projects, collectively referred to as the Bakken Pipeline system or DAPL.

[b] BANGL LLC also owns a 30% interest in a 323 mile NGL pipeline.

The following table sets forth details about MPLX owned and operated terminals as of December 31, 2022. Additionally, MPLX has partial ownership interest in one terminal.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (*mbbls*)
Refined Products Terminals:		
Alabama	2	443
Alaska	3	1,573
California	8	3,483
Florida	3	2,265
Georgia	4	982
Idaho	3	999
Illinois	2	562
Indiana	7	3,812
Kentucky	6	2,587
Louisiana	2	5,404
Michigan	8	2,440
Minnesota	1	13
New Mexico	3	471
North Carolina	3	1,356
North Dakota	1	—
Ohio	12	3,200
Pennsylvania	1	390
South Carolina	1	371
Tennessee	4	1,149
Texas	1	76
Utah	1	21
Washington	4	920
West Virginia	2	1,564
Subtotal light products terminals	82	34,081
Asphalt Terminals		
Arizona	3	554
Minnesota	1	—
Nevada[(a)]	1	283
New Mexico	1	38
Texas	1	197
Subtotal asphalt terminals	7	1,072
Total owned and operated terminals	89	35,153

(a) MPLX accounts for this terminal as an equity method investment.

The following table sets forth details about MPLX barges and towboats as of December 31, 2022.

Class of Equipment	Number in Class	Capacity (*mbbls*)
Inland tank barges	296	7,820
Inland towboats	23	N/A

The following tables set forth certain information relating to MPLX's consolidated and operated joint venture gas processing facilities, fractionation facilities, natural gas gathering systems, NGL pipelines and natural gas pipelines as of and for the year ended December 31, 2022.

Gas Processing Complexes	Design Throughput Capacity *(MMcf/d)*	Natural Gas Throughput[(a)] *(MMcf/d)*	Utilization of Design Capacity[(a)]
Marcellus Operations	6,320	5,515	87 %
Utica Operations	1,325	495	37 %
Southern Appalachia Operations	495	217	44 %
Southwest Operations[(b)]	2,545	1,637	69 %
Bakken Operations	185	146	79 %
Rockies Operations	1,177	438	37 %
Total	12,047	8,448	71 %

(a) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

(b) The capacity presented above includes MPLX's proportionate share of Centrahoma Processing LLC's processing capacity of 550 MMcf/d, as MPLX owns a non-operating 40 percent interest in this joint venture. Actual throughput of 170 MMcf/d representing MPLX's share of processed volumes is also included and used to compute the utilization presented above.

Fractionation & Condensate Stabilization Facilities	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)[(a)]	Utilization of Design Capacity[(a)]
Marcellus Operations	413	307	74 %
Utica Operations	23	14	61 %
Southern Appalachia Operations	24	11	46 %
Bakken Operations	33	21	64 %
Rockies Operations	5	4	80 %
Total	498	357	72 %

(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

De-ethanization Facilities	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)[(a)]	Utilization of Design Capacity[(a)]
Marcellus Operations	309	204	72 %
Utica Operations	40	5	13 %
Rockies Operations	5	—	— %
Total	354	209	64 %

(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

Natural Gas Gathering Systems	Design Throughput Capacity (*MMcf/d*)	Natural Gas Throughput[(a)] (*MMcf/d*)	Utilization of Design Capacity[(a)]
Marcellus Operations	1,547	1,321	85 %
Utica Operations	3,183	2,134	67 %
Southwest Operations	2,980	1,629	58 %
Bakken Operations	189	152	80 %
Rockies Operations[(b)]	1,486	448	30 %
Total	9,385	5,684	62 %

(a) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

(b) This region does not include MPLX's operated joint venture, Rendezvous Gas Services, L.L.C. ("RGS"), which has a gathering capacity of 1,032 MMcf/d; this system supports other systems which are included in the Rockies region and that throughput is presented in the Rockies gathering throughput above. The third party volumes gathered for RGS during the year ended December 31, 2022 were 110 MMcf/d.

The following table sets forth certain information relating to MPLX's NGL pipelines as of December 31, 2022.

NGL Pipelines	Diameter *(inches)*	Length *(miles)*	Design Throughput Capacity *(mbpd)*
Marcellus Operations	4" - 20"	442	Various
Utica Operations	4"- 12"	119	Various
Southern Appalachia Operations	6" - 8"	138	35
Southwest Operations[a]	6"	50	39
Bakken Operations	8" - 12"	84	80
Rockies Operations	8"	10	15

(a) Includes 38 miles of inactive pipeline.

MIDSTREAM - MPC-RETAINED ASSETS AND INVESTMENTS

The following table sets forth certain information related to our crude oil and refined products pipeline systems not owned by MPLX.

As of December 31, 2022, we had partial ownership interests in the following pipeline companies.

Pipeline Company	Diameter (*inches*)	Length (*miles*)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:				
Capline Pipeline Company LLC	40"	644	33%	Yes
Gray Oak Pipeline, LLC	8"-30"	845	25%	No
LOOP[a]	48"	48	10%	No
Total		1,489		
Refined products pipeline companies:				
Ascension Pipeline Company LLC	12"	32	50%	No
Centennial Pipeline LLC[b]	24"-26"	793	50%	Yes
Muskegon Pipeline LLC	10"-12"	170	60%	Yes
Wolverine Pipe Line Company	6"-18"	798	6%	No
Total		1,793		

(a) Represents interest retained by MPC and excludes MPLX's 40.7 percent ownership interest in LOOP. Pipeline mileage is excluded from total as it is included with MPLX assets.
(b) All system pipeline miles are inactive.

As of December 31, 2022, we had a partial ownership interest in the following crude oil terminal.

Terminal	Ownership Interest	Tank Storage Capacity (*million barrels*)
South Texas Gateway Terminal LLC	25%	8.6

The following table sets forth details about our ocean vessels as of December 31, 2022.

Class of Equipment	Number in Class	Capacity (*mbbls*)
Jones Act product tankers	4	1,320
750 Series ATB vessels[a]	3	990

(a) Represents ownership through our indirect noncontrolling 50% interest in Crowley Blue Water Partners.

Item 3. Legal Proceedings

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. While it is possible that an adverse result in one or more of the lawsuits or proceedings in which we are a defendant could be material to us, based upon current information and our experience as a defendant in other matters, we believe that these lawsuits and proceedings, individually or in the aggregate, will not have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Item 103 of Regulation S-K promulgated by the SEC requires disclosure of certain environmental matters when a governmental authority is a party to the proceedings and such proceedings involve potential monetary sanctions, unless we reasonably believe that the matter will result in no monetary sanctions, or in monetary sanctions, exclusive of interest and costs, of less than a specified threshold. We use a threshold of $1 million for this purpose.

Climate Change Litigation

Governmental and other entities in various states have filed climate-related lawsuits against a number of energy companies, including MPC. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. Similar lawsuits may be filed in other jurisdictions. The names of the courts in which the proceedings are pending and the dates instituted are as follows:

Plaintiff	Date Instituted	Name of Court(s) where pending
County of San Mateo, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
County of Marin, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Imperial Beach, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
County of Santa Cruz, California	December 20, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Santa Cruz, California	December 20, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Richmond, California	January 22, 2018	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
State of Rhode Island	July 2, 2018	Superior Court of Providence County; U.S. Court of Appeals for the First Circuit
Mayor and City Council of Baltimore, Maryland	July 20, 2018	Circuit Court of Baltimore City; U.S. Court of Appeals for the Fourth Circuit
Pacific Coast Federation of Fishermen’s Associations, Inc.	November 14, 2018	U.S. District Court (Northern District of California)
City and County of Honolulu, Hawaii	March 9, 2020	U.S. District Court (District of Hawaii); U.S. Court of Appeals for the Ninth Circuit; Circuit Court of the First Circuit (State of Hawaii); Hawaii Intermediate Court of Appeals
City of Charleston, South Carolina	September 9, 2020	U.S. District Court (District of South Carolina)
State of Delaware	September 10, 2020	U.S. District Court (District of Delaware); U.S. Court of Appeals for the Third Circuit
County of Maui, Hawaii	October 12, 2020	U.S. District Court (District of Hawaii); U.S. Court of Appeals for the Ninth Circuit; Circuit Court of the First Circuit (State of Hawaii)
City of Annapolis, Maryland	February 22, 2021	U.S. District Court (District of Maryland); US Court of Appeals for the Fourth Circuit
Anne Arundel County, Maryland	April 26, 2021	U.S. District Court (District of Maryland); U.S. Court of Appeals for the Fourth Circuit

Dakota Access Pipeline

MPLX holds a 9.19 percent indirect interest in a joint venture (“Dakota Access”) that owns and operates the Dakota Access Pipeline and Energy Transfer Crude Oil Pipeline projects, collectively referred to as the Bakken Pipeline system or DAPL. In 2020, the D.D.C. ordered the Army Corps, which granted permits and an easement for the Bakken Pipeline system, to prepare an environmental impact statement (“EIS”) relating to an easement under Lake Oahe in North Dakota. The D.D.C. later vacated the easement. The Army Corps expects to release a draft EIS in 2023.

In May 2021, the D.D.C. denied a renewed request for an injunction to shut down the pipeline while the EIS is being prepared. In June 2021, the D.D.C. issued an order dismissing without prejudice the tribes’ claims against the Dakota Access Pipeline. The litigation could be reopened or new litigation challenging the EIS, once completed, could be filed. The pipeline remains operational.

MPLX has entered into a Contingent Equity Contribution Agreement whereby it, along with the other joint venture owners in the Bakken Pipeline system, has agreed to make equity contributions to the joint venture upon certain events occurring to allow the entities that own and operate the Bakken Pipeline system to satisfy their senior note payment obligations. The senior notes were issued to repay amounts owed by the pipeline companies to fund the cost of construction of the Bakken Pipeline system. If the pipeline were temporarily shut down, MPLX would have to contribute its 9.19 percent pro rata share of funds required to pay interest accruing on the notes and any portion of the principal that matures while the pipeline is shutdown. MPLX also expects to contribute its 9.19 percent pro rata share of any costs to remediate any deficiencies to reinstate the permit and/or return the pipeline into operation. If the vacatur of the easement permit results in a permanent shutdown of the pipeline, MPLX would have to contribute its 9.19 percent pro rata share of the cost to redeem the bonds (including the 1% redemption premium required pursuant to the indenture governing the notes) and any accrued and unpaid interest. As of December 31, 2022, our maximum potential undiscounted payments under the Contingent Equity Contribution Agreement were approximately $170 million.

Tesoro High Plains Pipeline

In July 2020, Tesoro High Plains Pipeline Company, LLC (“THPP”), a subsidiary of MPLX, received a Notification of Trespass Determination from the Bureau of Indian Affairs (“BIA”) relating to a portion of the Tesoro High Plains Pipeline that crosses the Fort Berthold Reservation in North Dakota. The notification demanded the immediate cessation of pipeline operations and assessed trespass damages of approximately $187 million. After subsequent appeal proceedings and in compliance with a new order issued by the BIA, in December 2020, THPP paid approximately $4 million in assessed trespass damages and ceased use of the portion of the pipeline that crosses the property at issue. In March 2021, the BIA issued an order purporting to vacate the BIA's prior orders related to THPP’s alleged trespass and direct the Regional Director of the BIA to reconsider the issue of THPP’s alleged trespass and issue a new order. In April 2021, THPP filed a lawsuit in the District of North Dakota against the United States of America, the U.S. Department of the Interior and the BIA (together, the “U.S. Government Parties”) challenging the March 2021 order purporting to vacate all previous orders related to THPP’s alleged trespass. On February 8, 2022, the U.S. Government Parties filed their answer and counterclaims to THPP’s suit claiming THPP is in continued trespass with respect to the pipeline and seek disgorgement of pipeline profits from June 1, 2013 to present, removal of the pipeline and remediation. We intend to vigorously defend ourselves against these counterclaims.

Martinez Refinery

We have resolved 99 NOVs received from the Bay Area Air Quality Management District (“BAAQMD”) through settlement with the BAAQMD that includes payment of a cash penalty of approximately $1.5 million. The NOVs were issued from 2011 to 2018 and allege violations of air quality regulations and the idled Martinez refinery’s air permit.

On July 18, 2016, the U.S. Department of Justice (“DOJ”) lodged a complaint on behalf of EPA and a Consent Decree in the U.S. Court for the Western District of Texas. Among other things, the Consent Decree required that the Martinez refinery meet certain annual emission limits for NOx by July 1, 2018. In 2018, TRMC informed EPA that it would need additional time to satisfy requirements of the Consent Decree. In 2019, TRMC and the United States entered into an agreement to amend the Consent Decree to resolve these issues. In light of the actions to strategically reposition the Martinez refinery to a renewable diesel facility, we are renegotiating the Consent Decree modification. Subject to final approval by the court, we expect that, contingent on TRMC completing the conversion of the Martinez refinery to renewable diesel production, the renegotiated Consent Decree modification will no longer require the installation of a Selective Catalytic Reduction system to control NOx emissions from the now-idled fluid catalytic cracking unit, but will result in an increased civil penalty.

Gathering and Processing

MPLX has been negotiating with the EPA with respect to multiple alleged violations of the National Emission Standards for Hazardous Air Pollutants by the Chapita, Coyote Wash, Island, River Bend and Wonsits Valley Compressor Stations in Utah as well as the Robinson Lake Gas Plant in North Dakota. MPLX is in the process of finalizing a settlement with the EPA pursuant to which MPLX expects to pay a cash penalty of $2 million, incorporate additional remedial measures, mitigate excess emissions associated with events and enter into a consent decree covering MPLX gas plants and compressor stations located in Utah, North Dakota and Wyoming. We expect the settlement to be finalized later in 2023.

Edwardsville Incident

In March 2022, the State of Illinois brought an action in Madison County Circuit Court in Illinois against Marathon Pipe Line LLC, an indirect wholly owned subsidiary of MPLX, asserting various violations and demanding a permanent injunction and civil penalties in connection with a March 2022 release of crude oil on the Wood River to Patoka 22" line near Edwardsville, Illinois. We are negotiating a settlement of the allegations. We cannot currently estimate the amount of any civil penalty or the timing of the resolution of this matter but do not believe any civil penalty will have a material impact on our consolidated results of operations, financial position or cash flows.

Item 4. Mine Safety Disclosures

Not applicable

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed on the NYSE and traded under the symbol "MPC." As of February 16, 2023, there were 26,034 registered holders of our common stock.

Issuer Purchases of Equity Securities

The following table sets forth a summary of our purchases during the quarter ended December 31, 2022, of equity securities that are registered by MPC pursuant to Section 12 of the Securities Exchange Act of 1934, as amended:

				Millions of Dollars
Period	Total Number of Shares Purchased[(a)]	Average Price Paid per Share[(b)]	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs[(c)(d)]
10/01/2022-10/31/2022	991,728	$ 105.08	989,787	$ 5,004
11/01/2022-11/30/2022	3,742,961	122.76	3,742,909	4,545
12/01/2022-12/31/2022	10,773,486	112.56	10,773,486	3,332
Total	15,508,175	114.54	15,506,182	

(a) The amounts in this column include 1,941, 52 and 0 shares of our common stock delivered by employees to MPC, upon vesting of restricted stock, to satisfy tax withholding requirements in October, November and December, respectively.

(b) Amounts in this column reflect the weighted average price paid for shares repurchased under our share repurchase authorizations and for shares tendered to us in satisfaction of employee tax withholding obligations upon the vesting of restricted stock granted under our stock plans. The weighted average price includes commissions paid to brokers during the quarter.

(c) On February 2, 2022, we announced that our board of directors had approved an additional $5 billion share repurchase authorization, which was exhausted during the fourth quarter of 2022. On August 2, 2022, we announced that our board of directors had approved an additional $5 billion share repurchase authorization. On January 31, 2023, we announced that our board of directors had approved an additional $5 billion share repurchase authorization, which authorization is not reflected in this column. These share repurchase authorizations have no expiration date.

(d) Includes the payment of any commissions paid to brokers during the quarter.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

All statements in this section, other than statements of historical fact, are forward-looking statements that are inherently uncertain. See “Disclosures Regarding Forward-Looking Statements” and Item 1A. Risk Factors for a discussion of the factors that could cause actual results to differ materially from those projected in these statements. The following information concerning our business, results of operations and financial condition should also be read in conjunction with the information included under Item 1. Business, Item 1A. Risk Factors and Item 8. Financial Statements and Supplementary Data.

EXECUTIVE SUMMARY

Business Update

For the year ended December 31, 2022, our results were favorably impacted by the continuing recovery in the environment in which our business operates. The increase in global demand for refined products and global commodity supply constraints have contributed to increases in the market prices of petroleum-based transportation fuels and in Refining & Marketing margins and Midstream throughputs. Supply has remained constrained for a variety of reasons, including, but not limited to, effects from refinery closures and disruptions in the crude oil and petroleum-based products markets resulting from the Russia-Ukraine conflict. We are unable to predict the potential effects that resurgences of COVID-19 or the continuance or escalation of the military conflict between Russia and Ukraine, and related sanctions or market disruptions, may have on our financial position and results. It remains uncertain how long these conditions may last or how severe they may become.

In 2022, data indicated a sharp rise in inflation in the U.S. and globally. Current and future inflationary effects may be driven by, among other things, supply chain disruptions, governmental stimulus or fiscal policies and increasing demand for certain goods and services as recovery from the COVID-19 pandemic continues. We have observed higher costs for feedstocks, labor and materials used in our business. We cannot predict the effect of rising interest rates, the concerns of a recession and higher inflation and fuel prices on demand for our products and services.

In response to this business environment, we continue to focus on the following priorities for our business:

Strengthen Competitive Position of Assets

We are committed to positioning our assets so that we are a leader in operational, financial, and sustainability performance and are evaluating the strength and fit of assets in our portfolio. Our goal is that each individual asset generates free-cash-flow back to the business and contributes to shareholder returns. With our investments, we are focused on high returning projects that we believe will enhance the competitiveness of our portfolio, including our investments in sustainable fuels and technologies that lower our carbon intensity as the global energy mix evolves.

Improve Commercial Performance

We are focused on leveraging advantaged raw material selection, new approaches in the commercial space to be more dynamic amidst changing market conditions and achieving technology improvements to advance our commercial performance. A near-term focus has been securing advantaged renewable feedstocks as we continue to advance our renewable fuels production capabilities. This includes exploring joint venture opportunities and strategic alliances within the renewable fuels value chain.

Continued Capital Discipline and Focus on Low-Cost Culture

We are committed to achieving operational excellence by reducing costs, improving efficiency, driving operational improvements and being disciplined in capital allocation. This means lowering our costs in all aspects of our business and challenging ourselves to be disciplined in every dollar we spend across our organization. We look to optimize our portfolio of investment opportunities to ensure efficient deployment of capital focusing on projects with the highest returns.

Commitment to Sustainability

Our approach to sustainability spans the environmental, social and governance dimensions of our business. That means strengthening resiliency by lowering the carbon intensity and conserving natural resources; innovating for the future by investing in renewables and emerging technologies; and embedding sustainability in decision-making and in how we engage our people and many stakeholders. Specifically, in 2022, we were the first among U.S. independent refiners to establish a 2030 target to reduce absolute Scope 3 - Category 11 GHG emissions. This goal added to our existing targets for reducing Scope 1 & 2 GHG emissions intensity, for lowering methane emissions intensity and for lowering our freshwater withdrawal intensity. Additionally, MPLX is progressing towards meeting its 2025 and 2030 methane intensity reduction goals, as well as its biodiversity target, by applying sustainable landscapes to its compatible right of ways.

Strategic Updates

Martinez Renewable Fuels Project Joint Venture

On September 21, 2022, MPC closed on the formation of the Martinez Renewable joint venture. The partnership is structured as a 50/50 joint venture with Neste expected to contribute a total of $1 billion. These contributions will continue into 2023. At the closing date, MPC contributed property, plant and equipment, inventory, and working capital valued at $1.47 billion and Neste contributed $728 million in cash. MPC recorded a gain of $549 million resulting from the difference between the carrying value and fair value of the contributed property, plant and equipment and inventory. Subsequent to the closing, the joint venture paid a special distribution to MPC of $500 million, which is reflected as a return of capital in MPC’s consolidated statements of cash flows. At December 31, 2022, MPC’s investment value in the entity is approximately $1.07 billion.

MPC will continue to manage project execution and operate the facility once construction is complete. The annual feedstock supply requirements are split between the joint venture partners, which include specific commitments to supply advantaged feedstocks. The annual production output will be shared evenly between the joint venture partners, and each partner will have the ability to market its share of the products. The joint venture, being optimally located to strengthen both partners' footprint in renewable fuels, will utilize existing processing infrastructure and diverse inbound and outbound logistics.

This strategic partnership is expected to advance the current project objectives of delivering low carbon intensity fuels to support California's climate goals. MPC and Neste will leverage their complementary core competencies in the joint venture. MPC brings experience in renewable diesel facility conversion, large capital project execution and operating expertise in the California market. Neste brings knowledge in sustainable feedstock sourcing and in renewable liquid fuels production. The joint venture reflects both partners' commitment to obtain low carbon intensity feedstocks to achieve the project objectives of providing fuels that meet the demand driven by the Low Carbon Fuel Standard.

The facility is expected to ramp up to producing 730 million gallons per year by the end of 2023, with pretreatment capabilities coming online in 2023.

Share Repurchase Authorization

As of December 31, 2022, MPC had $3.33 billion remaining under its share repurchase authorizations. On January 31, 2023, the company announced that its Board of Directors had approved an incremental $5.0 billion share repurchase authorization. Future repurchases under this incremental authorization will depend on the macro environment, cash available after opportunities for capital investment and growth of the business and market conditions. This authorization is in addition to a $5.0 billion share repurchase authorization announced on August 2, 2022 and a $5.0 billion share repurchase authorization announced on February 2, 2022. The authorizations have no expiration date.

Results

During the first quarter of 2022, our chief operating decision maker ("CODM") began to evaluate the performance of our segments using segment adjusted EBITDA. We have modified our presentation of segment performance to be consistent with this change, including prior periods presented for consistent and comparable presentation. Amounts included in net income and excluded from segment adjusted EBITDA include: (i) depreciation and amortization; (ii) provision for income taxes; (iii) net interest and other financial costs; (iv) noncontrolling interests; (v) turnaround expenses and (vi) other adjustments as deemed necessary. These items are either: (i) believed to be non-recurring in nature; (ii) not believed to be allocable or controlled by the segment; or (iii) are not tied to the operational performance of the segment.

Select results for continuing operations for 2022 and 2021 are reflected in the following table.

(Millions of dollars)	2022	2021
Segment adjusted EBITDA for reportable segments		
Refining & Marketing	$ 19,261	$ 3,518
Midstream	5,772	5,410
Total reportable segments	$ 25,033	$ 8,928
Reconciliation of segment adjusted EBITDA for reportable segments to income from continuing operations before income taxes		
Total reportable segments	$ 25,033	$ 8,928
Corporate	(698)	(587)
Refining planned turnaround costs	(1,122)	(582)
Storm impacts	—	(70)
LIFO inventory credit	148	—
Gain on sale of assets[(a)]	1,058	—
Renewable volume obligation requirements[(b)]	238	—
Litigation	27	—
Impairments[(c)]	—	(13)
Idling facility expenses	—	(12)
Depreciation and amortization[(d)]	(3,215)	(3,364)
Net interest and other financial costs	(1,000)	(1,483)
Income from continuing operations before income taxes	$ 20,469	2,817

(a) Includes the non-cash gain related to the contribution of assets by MPC on the formation of the Martinez Renewable joint venture and the non-cash gain on lease reclassification. See Item 8. Financial Statements and Supplementary Data - Notes 16 and 28.

(b) Represents retroactive changes in renewable volume obligation requirements published by the EPA in June 2022 for the 2020 and 2021 annual obligations.

(c) Impairment of equity method investments. See Item 8. Financial Statements and Supplementary Data - Note 7.

(d) 2021 includes $56 million of impairments of long-lived assets.

The following table includes net income per diluted share data.

Net income per diluted share	2022	2021
Continuing operations	$ 27.98	$ 2.02
Discontinued operations	0.14	13.22
Net income attributable to MPC	$ 28.12	$ 15.24

Net income attributable to MPC increased $4.78 billion, or $12.88 per diluted share, in 2022 compared to 2021 primarily due to increased average refined product sales prices and volumes and non-cash net gains on the disposal of assets, partially offset by increased operating costs and the absence of a gain on the sale of Speedway and a partial period of income from discontinued operations due to the sale of the Speedway business on May 14, 2021.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on discontinued operations.

Refer to the Results of Operations section for a discussion of financial results by segment for the three years ended December 31, 2022.

MPLX

We received limited partner distributions of $1.87 billion and $2.16 billion from MPLX during 2022 and 2021, respectively. The decrease in 2022 is primarily due to a supplemental distribution amount of $0.5750 per common unit in the third quarter of 2021 that did not recur in 2022. We owned approximately 647 million MPLX common units at December 31, 2022 with a market value of $21.26 billion based on the December 30, 2022 closing unit price of $32.84. On January 25, 2023, MPLX declared a quarterly cash distribution of $0.7750 per common unit, which was paid February 14, 2023. As a result, MPLX made distributions totaling $776 million to its common unitholders. MPC's portion of this distribution was approximately $502 million.

During the year ended December 31, 2022, MPLX repurchased 15 million common units at an average cost per unit of $31.96 and paid $491 million of cash. As of December 31, 2022, $846 million remained available under the authorization for future repurchases.

On February 9, 2023, MPLX issued $1.1 billion aggregate principal amount of 5.00% senior notes due 2033 and $500 million aggregate principal amount of 5.65% senior notes due 2053 in an underwritten public offering.

On February 15, 2023, MPLX redeemed all of the 600,000 outstanding Series B preferred units at the redemption price of $1,000 per unit. The semi-annual distribution due to Series B unitholders on February 15, 2023, was also paid on that date, in the usual manner. MPLX also provided notice to redeem all of MPLX's and MarkWest's $1.0 billion aggregate principal amount of 4.50% senior notes due July 2023.

See Item 8. Financial Statements and Supplementary Data – Note 6 for additional information on MPLX.

OVERVIEW OF SEGMENTS

Refining & Marketing

Refining & Marketing segment adjusted EBITDA depends largely on our refinery throughputs, Refining & Marketing margin, refining operating costs and distribution costs. Our total refining capacity was 2,898 mbpcd, 2,887 mbpcd and 2,874 mbpcd as of December 31, 2022, 2021 and 2020, respectively.

Our Refining & Marketing margin is the difference between the prices of refined products sold and the costs of crude oil and other charge and blendstocks refined, including the costs to transport these inputs to our refineries and the costs of products purchased for resale. The crack spread is a measure of the difference between market prices for refined products and crude oil, commonly used by the industry as a proxy for the refining margin. Crack spreads can fluctuate significantly, particularly when prices of refined products do not move in the same relationship as the cost of crude oil. As a performance benchmark and a comparison with other industry participants, we calculate Gulf Coast, Mid-Continent and West Coast crack spreads that we believe most closely track our operations and slate of products. The following will be used for these crack-spread calculations:

- The Gulf Coast crack spread uses three barrels of MEH crude producing two barrels of USGC CBOB gasoline and one barrel of USGC ULSD;
- The Mid-Continent crack spread uses three barrels of WTI crude producing two barrels of Chicago CBOB gasoline and one barrel of Chicago ULSD; and
- The West Coast crack spread uses three barrels of ANS crude producing two barrels of LA CARBOB and one barrel of LA CARB Diesel.

Our refineries process a variety of sweet and sour grades of crude oil, which typically can be purchased at a discount to the crude oils referenced in our Gulf Coast, Mid-Continent and West Coast crack spreads. The amount of these discounts, which we refer to as the sweet differential and the sour differential, can vary significantly, causing our Refining & Marketing margin to differ from blended crack spreads. In general, larger sweet and sour differentials will enhance our Refining & Marketing margin.

Future crude oil differentials will be dependent on a variety of market and economic factors, as well as U.S. energy policy.

The following table provides sensitivities showing an estimated change in annual Refining & Marketing adjusted EBITDA due to potential changes in market conditions.

(In millions)		
Blended crack spread sensitivity[a] *(per $1.00/barrel change)*	$	1,080
Sour differential sensitivity[b] *(per $1.00/barrel change)*		500
Sweet differential sensitivity[c] *(per $1.00/barrel change)*		500
Natural gas price sensitivity[d] *(per $1.00/MMBtu)*		310

(a) Crack spread based on 40 percent MEH, 40 percent WTI and 20 percent ANS with Gulf Coast, Mid-Continent and West Coast product pricing, respectively, and assumes all other differentials and pricing relationships remain unchanged.

(b) Sour crude oil basket consists of the following crudes: ANS, Argus Sour Crude Index, Maya and Western Canadian Select. We assume approximately 50 percent of the crude processed at our refineries in 2023 will be sour crude.

(c) Sweet crude oil basket consists of the following crudes: Bakken, Brent, MEH, WTI-Cushing and WTI-Midland. We assume approximately 50 percent of the crude processed at our refineries in 2023 will be sweet crude.

(d) This is consumption based exposure for our Refining & Marketing segment and does not include the sales exposure for our Midstream segment.

In addition to the market changes indicated by the crack spreads, the sour differential and the sweet differential, our Refining & Marketing margin is impacted by factors such as:

- the selling prices realized for refined products;
- the types of crude oil and other charge and blendstocks processed;
- our refinery yields;
- the cost of products purchased for resale;
- the impact of commodity derivative instruments used to hedge price risk;
- the potential impact of LCM adjustments to inventories in periods of declining prices;
- the potential impact of LIFO liquidation charges due to draw-downs from historic inventory levels; and
- the cost of purchasing RINs in the open market to comply with RFS2 requirements.

Inventories are stated at the lower of cost or market. Costs of crude oil, refinery feedstocks and refined products are stated under the LIFO inventory costing method and aggregated on a consolidated basis for purposes of assessing if the cost basis of these inventories may have to be written down to market values. At December 31, 2022, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory valuation reserve at the end of the year. Based on movements of refined product prices, future inventory valuation adjustments could have a negative effect to earnings. Such losses are subject to reversal in subsequent periods if prices recover.

Refining & Marketing segment adjusted EBITDA is also affected by changes in refining operating costs in addition to committed distribution costs. Changes in operating costs are primarily driven by the cost of energy used by our refineries, including purchased natural gas, and the level of maintenance costs. Distribution costs primarily include long-term agreements with MPLX, which as discussed below include minimum commitments to MPLX, and will negatively impact segment adjusted EBITDA in periods when throughput or sales are lower or refineries are idled.

We have various long-term, fee-based commercial agreements with MPLX. Under these agreements, MPLX, which is reported in our Midstream segment, provides transportation, storage, distribution and marketing services to our Refining & Marketing segment. Certain of these agreements include commitments for minimum quarterly throughput and distribution volumes of crude oil and refined products and minimum storage volumes of crude oil, refined products and other products. Certain other agreements include commitments to pay for 100 percent of available capacity for certain marine transportation and refining logistics assets.

Midstream

Our Midstream segment transports, stores, distributes and markets crude oil and refined products, principally for our Refining & Marketing segment. The profitability of our pipeline transportation operations primarily depends on tariff rates and the volumes shipped through the pipelines. The profitability of our marine operations primarily depends on the quantity and availability of our vessels and barges. The profitability of our light product terminal operations primarily depends on the throughput volumes at these terminals. The profitability of our fuels distribution services primarily depends on the sales volumes of certain refined products. The profitability of our refining logistics operations depends on the quantity and availability of our refining logistics assets. A majority of the crude oil and refined product shipments on our pipelines and marine vessels and the refined product throughput at our terminals serve our Refining & Marketing segment. Our refining logistics assets and fuels distribution services are used solely by our Refining & Marketing segment.

As discussed above in the Refining & Marketing section, MPLX, which is reported in our Midstream segment, has various long-term, fee-based commercial agreements related to services provided to our Refining & Marketing segment. Under these agreements, MPLX has received various commitments of minimum throughput, storage and distribution volumes as well as commitments to pay for all available capacity of certain assets. The volume of crude oil that we transport is directly affected by the supply of, and refiner demand for, crude oil in the markets served directly by our crude oil pipelines, terminals and marine operations. Key factors in this supply and demand balance are the production levels of crude oil by producers in various regions or fields, the availability and cost of alternative modes of transportation, the volumes of crude oil processed at refineries and refinery and transportation system maintenance levels. The volume of refined products that we transport, store, distribute and market is directly affected by the production levels of, and user demand for, refined products in the markets served by our refined product pipelines and marine operations. In most of our markets, demand for gasoline and distillate peaks during the summer driving season, which extends from May through September of each year, and declines during the fall and winter months. As with crude oil, other transportation alternatives and system maintenance levels influence refined product movements.

Our Midstream segment also gathers and processes natural gas and NGLs. NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors that are beyond our control. Our Midstream segment profitability is affected by prevailing commodity prices primarily as a result of processing or conditioning at our own or third-party processing plants, purchasing and selling or gathering and transporting volumes of natural gas at index-related prices and the cost of third-party transportation and fractionation services. To the extent that commodity prices influence the level of natural gas drilling by our producer customers, such prices also affect profitability.

RESULTS OF OPERATIONS

The following discussion includes comments and analysis relating to our results of operations for the years ended December 31, 2022, 2021 and 2020. This discussion should be read in conjunction with Item 8. Financial Statements and Supplementary Data and is intended to provide investors with a reasonable basis for assessing our historical operations, but should not serve as the only criteria for predicting our future performance.

Consolidated Results of Operations

(Millions of dollars)	2022	2021	2022 vs. 2021 Variance	2020	2021 vs. 2020 Variance
Revenues and other income:					
Sales and other operating revenues[(a)]	$ 177,453	$ 119,983	$ 57,470	$ 69,779	$ 50,204
Income (loss) from equity method investments	655	458	197	(935)	1,393
Net gain on disposal of assets	1,061	21	1,040	70	(49)
Other income	783	468	315	118	350
Total revenues and other income	179,952	120,930	59,022	69,032	51,898
Costs and expenses:					
Cost of revenues (excludes items below)	151,671	110,008	41,663	65,733	44,275
Impairment expense	—	—	—	8,426	(8,426)
Depreciation and amortization	3,215	3,364	(149)	3,375	(11)
Selling, general and administrative expenses	2,772	2,537	235	2,710	(173)
Restructuring expenses	—	—	—	367	(367)
Other taxes	825	721	104	668	53
Total costs and expenses	158,483	116,630	41,853	81,279	35,351
Income (loss) from continuing operations	21,469	4,300	17,169	(12,247)	16,547
Net interest and other financial costs	1,000	1,483	(483)	1,365	118
Income (loss) from continuing operations before income taxes	20,469	2,817	17,652	(13,612)	16,429
Provision (benefit) for income taxes on continuing operations	4,491	264	4,227	(2,430)	2,694
Income (loss) from continuing operations, net of tax	15,978	2,553	13,425	(11,182)	13,735
Income from discontinued operations, net of tax	72	8,448	(8,376)	1,205	7,243
Net income (loss)	16,050	11,001	5,049	(9,977)	20,978
Less net income (loss) attributable to:					
Redeemable noncontrolling interest	88	100	(12)	81	19
Noncontrolling interests	1,446	1,163	283	(232)	1,395
Net income (loss) attributable to MPC	$ 14,516	$ 9,738	$ 4,778	$ (9,826)	$ 19,564

(a) In accordance with discontinued operations accounting, Speedway sales to retail customers and net results are reflected in Income from discontinued operations, net of tax, and Refining & Marketing intercompany sales to Speedway are presented as third-party sales through the close of the sale on May 14, 2021.

2022 Compared to 2021

Net income attributable to MPC increased $4.78 billion in 2022 compared to 2021, primarily due to increased average refined product sales prices and volumes and net gains on the disposal of assets, partially offset by increased operating costs and the absence of a gain on the sale of Speedway and a partial period of income from discontinued operations due to the sale of the Speedway business on May 14, 2021.

Total revenues and other income increased $59.02 billion in 2022 compared to 2021 primarily due to:

- increased sales and other operating revenues of $57.47 billion primarily due to increased average refined product sales prices of $0.96 per gallon, or 47 percent, and refined product sales volumes of 83 mbpd, or 2 percent, largely due to continuing recovery in demand for our products across all our regions;
- increased income from equity method investments of $197 million largely due to increased income from midstream equity affiliates;

- increased net gains on disposal of assets of $1.04 billion mainly due to a gain of $549 million on the formation of the Martinez Renewable joint venture and a gain of $509 million on a lease reclassification; and
- increased other income of $315 million primarily due to higher income on RIN sales.

Total costs and expenses increased $41.85 billion in 2022 compared to 2021 primarily due to:

- increased cost of revenues of $41.66 billion primarily due to higher crude oil costs and finished product purchases;
- decreased depreciation and amortization of $149 million mainly due to 2021 Midstream asset impairments and assets that were fully depreciated in 2021;
- increased selling, general and administrative expenses of $235 million mainly due to increased salaries, benefits and employee related expenses, credit card processing fees, contract services and insurance: and
- increased other taxes of $104 million largely due to retroactive operating tax assessments for prior periods.

Net interest and other financial costs decreased $483 million largely due to increased interest income, decreased debt retirement expenses related to the redemption of MPC senior notes in 2021, decreased interest expense due to lower MPC borrowings and decreased pension and other postretirement non-service costs, partially offset by increased interest expense due to higher MPLX borrowings. We capitalized interest of $104 million in 2022 and $73 million in 2021. See Item 8. Financial Statements and Supplementary Data – Note 13 for further details.

We recorded a combined federal, state and foreign income tax expense of $4.49 billion for the year ended December 31, 2022, which was higher than the tax computed at the U.S. statutory rate primarily due to state taxes, partially offset by permanent tax benefits related to net income attributable to noncontrolling interests. We recorded a combined federal, state and foreign income tax expense of $264 million for the year ended December 31, 2021, which was lower than the tax computed at the U.S. statutory rate primarily due to certain permanent tax benefits related to net income attributable to noncontrolling interests and a change in benefit related to the net operating loss ("NOL") carryback provided under the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), partially offset by state taxes. See Item 8. Financial Statements and Supplementary Data – Note 14 for further details.

Net income attributable to noncontrolling interests increased $283 million mainly due to an increase in MPLX's net income.

2021 Compared to 2020

Net income attributable to MPC increased $19.56 billion in 2021 compared to 2020 primarily due to the gain on the sale of Speedway, the absence of impairment expenses and a LIFO liquidation charge and increases in average refined product sales prices and volumes, partially offset by a partial period of income from discontinued operations due to the sale of the Speedway business on May 14, 2021. See Segment Results for additional information.

Total revenues and other income increased $51.90 billion in 2021 compared to 2020 primarily due to:

- increased sales and other operating revenues of $50.20 billion primarily due to increased average refined product sales prices of $0.80 per gallon, or 65 percent, and refined product sales volumes of 203 mbpd, or 6 percent, largely due to continuing economic recovery from the impact of the COVID-19 pandemic in 2020;
- increased income from equity method investments of $1.39 billion largely due to impairments of equity method investments of $1.32 billion in 2020 primarily driven by the effects of the COVID-19 pandemic and the decline in commodity prices; and
- increased other income of $350 million primarily due to higher income on RIN sales.

Total costs and expenses decreased $35.35 billion in 2021 compared to 2020 primarily due to:

- increased cost of revenues of $44.28 billion primarily due to higher refined product sales volumes in addition to higher crude oil and refined product raw material costs, partially offset by the absence of a LIFO liquidation charge in 2020 of $561 million;
- decreased impairment expense of $8.43 billion due to impairments recorded for goodwill and long-lived assets in 2020 primarily driven by the effects of COVID-19 and the decline in commodity prices;
- decreased selling, general and administrative expenses of $173 million mainly due to cost reductions realized from our 2020 workforce reduction and other cost control efforts; and
- decreased restructuring expenses of $367 million related to the idling of the Martinez and Gallup refineries and costs related to our announced workforce reduction in 2020. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information.

Net interest and other financial costs increased $118 million largely due to debt retirement expenses related to the redemption of MPC senior notes and pension settlement losses of $75 million, partially offset by decreased interest expense due to lower MPLX and MPC borrowings. We capitalized interest of $73 million in 2021 and $129 million in 2020. See Item 8. Financial Statements and Supplementary Data – Note 13 for further details.

We recorded a combined federal, state and foreign income tax expense of $264 million for the year ended December 31, 2021, which was lower than the tax computed at the U.S. statutory rate primarily due to certain permanent tax benefits related to net income attributable to noncontrolling interests and a change in benefit related to the NOL carryback provided under the CARES Act, partially offset by state taxes. We recorded a combined federal, state and foreign income tax benefit of $2.43 billion for the year ended December 31, 2020, which is lower than the tax computed at the U.S. statutory rate primarily due to a significant amount of our pre-tax loss consisting of non-tax deductible goodwill impairment charges, partially offset by the tax rate differential resulting from the NOL carryback provided under the CARES Act. Additionally, our effective tax rate is generally benefited by our noncontrolling interest in MPLX, but this benefit was lower for the year ended December 31, 2020 due to goodwill and other impairment charges recorded by MPLX. See Item 8. Financial Statements and Supplementary Data – Note 14 for further details.

Net income attributable to noncontrolling interests increased $1.40 billion mainly due to an increase in MPLX's net income largely due to impairment expense recognized during 2020.

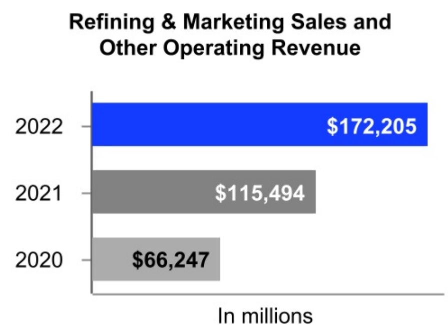
Segment Results

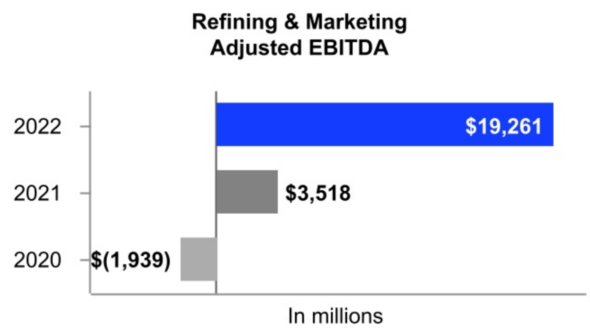
We classify our business in the following reportable segments: Refining & Marketing and Midstream. Segment adjusted EBITDA represents adjusted EBITDA attributable to the reportable segments. Amounts included in net income and excluded from segment adjusted EBITDA include: (i) depreciation and amortization; (ii) provision for income taxes; (iii) net interest and other financial costs; (iv) noncontrolling interests; (v) turnaround expenses and (vi) other adjustments as deemed necessary. These items are either: (i) believed to be non-recurring in nature; (ii) not believed to be allocable or controlled by the segment; or (iii) are not tied to the operational performance of the segment.

Our segment adjusted EBITDA for reportable segments was approximately $25.03 billion, $8.93 billion and $3.12 billion for the years ended December 31, 2022, 2021 and 2020, respectively.

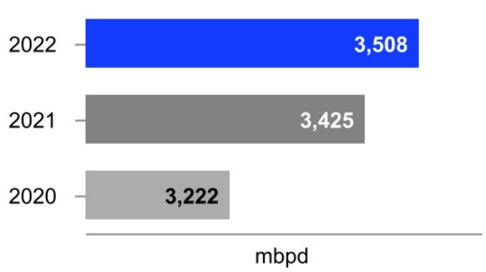
Refining & Marketing

The following includes key financial and operating data for 2022, 2021 and 2020.

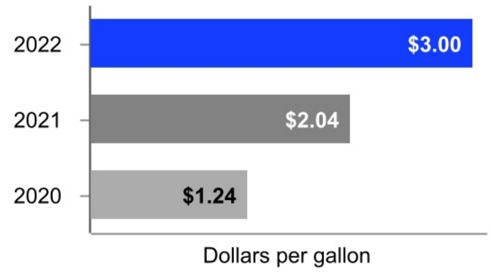




Refined Product Sales Volumes (a)



Average Refined Product Sales Prices



[a] Includes intersegment sales to Midstream and sales destined for export.

Refining & Marketing Operating Statistics	2022	2021	2020
Net refinery throughput *(mbpd)*	2,951	2,799	2,583
Refining & Marketing margin, excluding LIFO inventory credit/charge per barrel[a][b]	$ 28.10	$ 13.36	$ 8.96
LIFO inventory credit (charge) per barrel	0.14	—	(0.59)
Refining & Marketing margin per barrel[a][b]	28.24	13.36	8.37
Less:			
Refining operating costs per barrel[c]	5.41	5.02	5.68
Distribution costs per barrel	4.89	5.04	5.37
LIFO inventory credit (charge) per barrel	0.14	—	(0.59)
Other per barrel[d]	(0.08)	(0.14)	(0.03)
Refining & Marketing adjusted EBITDA per barrel	17.88	3.44	(2.06)
Less:			
Storm impacts on refining operating cost per barrel[e]	—	0.05	—
Refining planned turnaround costs per barrel	1.04	0.57	0.88
LIFO inventory (credit) charge per barrel	(0.14)	—	0.59
Depreciation and amortization per barrel	1.72	1.83	1.96
Refining & Marketing segment income (loss) per barrel	$ 15.26	$ 0.99	$ (5.49)
Per barrel fees paid to MPLX included in distribution costs above	$ 3.39	$ 3.40	$ 3.66

[a] Sales revenue less cost of refinery inputs and purchased products, divided by net refinery throughput.
[b] See "Non-GAAP Measures" section for reconciliation and further information regarding this non-GAAP measure.
[c] Includes refining operating and major maintenance costs. Excludes planned turnaround and depreciation and amortization expense.
[d] Includes income (loss) from equity method investments, net gain (loss) on disposal of assets and other income.
[e] Storms in the first and third quarters of 2021 resulted in higher costs, including maintenance and repairs.

The following table presents certain benchmark prices in our marketing areas and market indicators that we believe are helpful in understanding the results of our Refining & Marketing segment. The benchmark crack spreads below do not reflect the market cost of RINs necessary to meet EPA renewable volume obligations for attributable products under the Renewable Fuel Standard.

Benchmark spot prices *(dollars per gallon)*	2022	2021	2020
Chicago CBOB unleaded regular gasoline	$ 2.87	$ 2.02	$ 1.07
Chicago ultra-low sulfur diesel	3.43	2.06	1.19
USGC CBOB unleaded regular gasoline	2.76	2.01	1.10
USGC ultra-low sulfur diesel	3.46	2.01	1.20
LA CARBOB	3.29	2.20	1.28
LA CARB diesel	3.51	2.10	1.30
Market Indicators *(dollars per barrel)*			
WTI	$ 94.33	$ 68.11	$ 39.34
MEH	96.19	69.01	—
LLS	—	—	41.15
ANS	98.98	70.56	42.28
Crack Spreads			
Mid-Continent WTI 3-2-1	$ 26.93	$ 10.95	$ 5.34
USGC MEH 3-2-1	22.17	8.89	—
USGC LLS 3-2-1	—	—	3.77
West Coast ANS 3-2-1	34.91	13.80	9.26
Blended 3-2-1[(a)]	26.62	10.70	5.64
Crude Oil Differentials			
Sweet	$ 0.21	$ (0.47)	$ (1.07)
Sour	(6.81)	(4.05)	(3.45)

(a) The blended crack spreads for 2022, 2021 and the fourth quarter of 2020 are weighted 40 percent of the USGC crack spread, 40 percent of the Mid-Continent crack spread and 20 percent of the West Coast crack spread. The blended crack spreads for the first three quarters of 2020 are weighted 38 percent of the USGC crack spread, 38 percent of the Mid-Continent crack spread and 24 percent of the West Coast crack spread. These blends are based on MPC's refining capacity by region in each period. Beginning in the first quarter of 2021, the prompt price for USGC was transitioned from LLS to MEH.

2022 Compared to 2021

Refining & Marketing segment revenues increased $56.71 billion primarily due to increased average refined product sales prices of $0.96 per gallon and higher refined product sales volumes, which increased 83 mbpd.

Refinery crude oil capacity utilization was 96 percent during 2022 and net refinery throughputs increased 152 mbpd primarily due to continuing recovery in demand for our products across all our regions.

Refining & Marketing segment adjusted EBITDA increased $15.74 billion primarily driven by higher per barrel margins, partially offset by increased refining operating costs and distribution costs, both excluding depreciation and amortization, and turnaround costs.

Refining & Marketing margin, excluding LIFO inventory credit of $148 million, was $28.10 per barrel for 2022 compared to $13.36 per barrel for 2021. Refining & Marketing margin is affected by the market indicators shown earlier, which use spot market values and an estimated mix of crude purchases and product sales. Based on the market indicators and our crude oil throughput, we estimate a net positive impact of approximately $18 billion on Refining & Marketing margin, primarily due to higher crack spreads. Our reported Refining & Marketing margin differs from market indicators due to the mix of crudes purchased and their costs, the effects of market structure on our crude oil acquisition prices, RIN prices on the crack spread and other items like refinery yields and other feedstock variances, direct dealer fuel margin, and for 2022, a LIFO inventory credit of $148 million. These factors had an estimated net negative impact on Refining & Marketing segment adjusted EBITDA of approximately $1.5 billion in 2022 compared to 2021.

For the year ended December 31, 2022, refining operating costs, excluding depreciation and amortization and storm impacts, were $5.83 billion. This was an increase of $708 million, or $0.39 per barrel, compared to the year ended December 31, 2021 primarily due to an increase in energy costs largely as a result of higher natural gas and electricity prices.

Distribution costs, excluding depreciation and amortization, were $5.27 billion and $5.15 billion for 2022 and 2021, respectively, and include fees paid to MPLX of $3.65 billion and $3.47 billion for 2022 and 2021, respectively. On a per barrel basis, distribution costs, excluding depreciation and amortization, decreased $0.15 due to higher throughput.

Refining planned turnaround costs increased $540 million, or $0.47 per barrel, due to the scope and timing of turnaround activity.

Depreciation and amortization per barrel decreased by $0.11, primarily due to a decrease in costs and an increase in throughput.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were $2.40 billion in 2022 and $1.49 billion in 2021 and are included in Refining & Marketing margin. The increase in 2022 was primarily due to higher weighted average RIN costs and an increase in RIN obligations due to higher production.

2021 Compared to 2020

Refining & Marketing segment revenues increased $49.25 billion primarily due to increased average refined product sales prices of $0.80 per gallon and higher refined product sales volumes, which increased 203 mbpd.

Refinery crude oil capacity utilization was 91 percent during 2021 and net refinery throughputs increased 216 mbpd primarily due to continuing economic recovery from the impact of the COVID-19 pandemic in 2020.

Refining & Marketing segment adjusted EBITDA increased $5.46 billion primarily driven by higher blended crack spreads.

Refining & Marketing margin, excluding LIFO inventory charge, was $13.36 per barrel for 2021 compared to $8.96 per barrel for 2020. Refining & Marketing margin is affected by the market indicators shown earlier, which use spot market values and an estimated mix of crude purchases and product sales. Based on the market indicators and our crude oil throughput, we estimate a net positive impact of $5.0 billion on Refining & Marketing margin, primarily due to higher crack spreads. Our reported Refining & Marketing margin differs from market indicators due to the mix of crudes purchased and their costs, the effects of market structure on our crude oil acquisition prices, RIN prices on the crack spread and other items like refinery yields and other feedstock variances, direct dealer fuel margin, and for 2020, a LIFO liquidation charge of $561 million. These factors had an estimated net positive impact on Refining & Marketing segment adjusted EBITDA of approximately $700 million, including the LIFO inventory charge, in 2021 compared to 2020.

For the year ended December 31, 2021, refining operating costs, excluding depreciation and amortization and storm impacts, were $5.13 billion. This was a decrease of $241 million, or $0.66 per barrel, compared to the year ended December 31, 2020 as we took actions to reduce costs in response to the economic effects of the COVID-19 pandemic, including idling portions of our refining capacity, partially offset by an increase in energy costs largely as a result of higher natural gas prices.

Distribution costs, excluding depreciation and amortization, were $5.15 billion and $5.08 billion for 2021 and 2020, respectively, and include fees paid to MPLX of $3.47 billion and $3.46 billion for 2021 and 2020, respectively. On a per barrel basis, distribution costs, excluding depreciation and amortization, decreased $0.33 due to increased throughput.

Refining planned turnaround costs decreased $250 million, or $0.31 per barrel, due to the timing of turnaround activity and an increase in throughput.

Depreciation and amortization per barrel decreased by $0.13, primarily due to an increase in throughput partially offset by an increase in costs.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were $1.49 billion in 2021 and $606 million in 2020 and are included in Refining & Marketing margin. The increase in 2021 was primarily due to higher weighted average RIN costs.

Supplemental Refining & Marketing Statistics

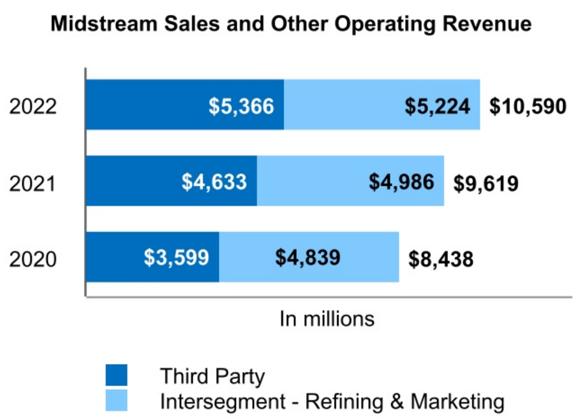
	2022	2021	2020
Refining & Marketing Operating Statistics			
Crude oil capacity utilization percent[(a)]	96	91	82
Refinery throughputs (*mbpd*):			
Crude oil refined	2,761	2,621	2,418
Other charge and blendstocks	190	178	165
Net refinery throughput	2,951	2,799	2,583
Sour crude oil throughput percent	47	47	49
Sweet crude oil throughput percent	53	53	51
Refined product yields (*mbpd*):			
Gasoline[(b)]	1,494	1,446	1,314
Distillates[(b)]	1,079	965	905
NGLs and petrochemicals[(b)]	178	250	244
Asphalt	89	91	81
Propane	70	52	51
Heavy fuel oil	73	31	28
Total	2,983	2,835	2,623
Refined product export sales volumes *(mbpd)*[(c)]	315	371	340

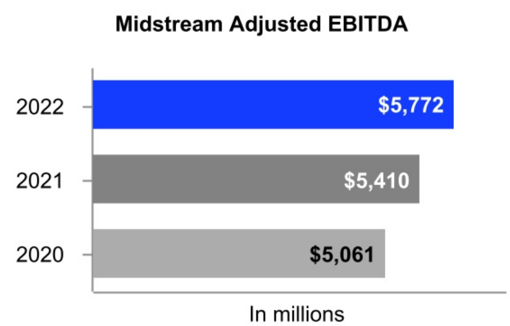
(a) Based on calendar-day capacity, which is an annual average that includes down time for planned maintenance and other normal operating activities.

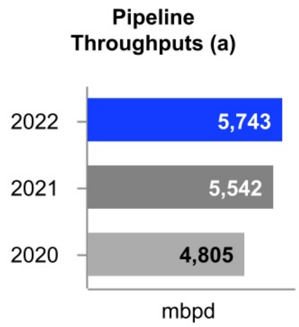
(b) Product yields include renewable production.

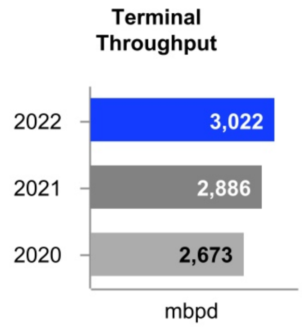
(c) Represents fully loaded export cargoes for each time period. These sales volumes are included in the total sales volumes amounts.

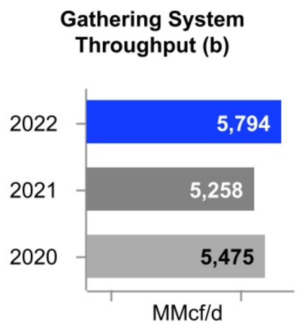
Midstream

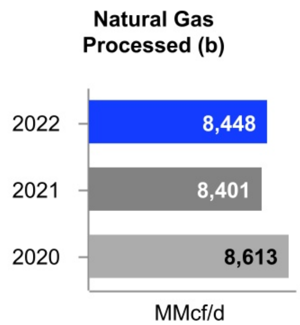


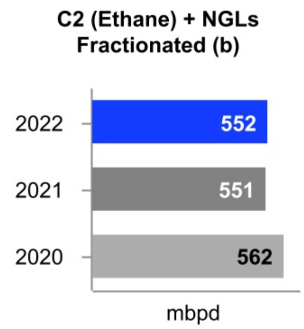












(a) On owned common-carrier pipelines, excluding equity method investments.

(b) Includes amounts related to MPLX operated unconsolidated equity method investments on a 100 percent basis.

Benchmark Prices	2022	2021	2020
Natural Gas NYMEX HH (*$ per MMBtu*)	$ 6.52	$ 3.72	$ 2.13
C2 + NGL Pricing (*$ per gallon*)[(a)]	$ 1.03	$ 0.87	$ 0.43

(a) C2 + NGL pricing based on Mont Belvieu prices assuming an NGL barrel of approximately 35 percent ethane, 35 percent propane, six percent Iso-Butane, 12 percent normal butane and 12 percent natural gasoline.

2022 Compared to 2021

Midstream segment revenue and segment adjusted EBITDA increased $971 million and $362 million, respectively. Results largely benefited from higher product pricing, mainly due to increased average C2 + NGL prices of $0.16 per gallon. These price increases resulted in higher revenues of approximately $380 million, as well as higher cost of sales of $315 million. The Midstream segment also benefited from higher gathering system throughputs, resulting in increased revenue of $356 million, in addition to higher pipeline and terminal throughputs. Segment adjusted EBITDA increased primarily due to income from equity method investments of approximately $211 million.

2021 Compared to 2020

Midstream segment revenue and segment adjusted EBITDA increased $1.18 billion and $349 million, respectively. Results benefited from higher revenue, primarily due to higher natural gas prices, higher pipeline and terminal throughputs and lower operating expenses, partially offset by a decrease in marine transportation fees.

Corporate

Key Financial Information *(in millions)*		2022		2021		2020
Corporate[a]	$	(753)	$	(696)	$	(800)

[a] Corporate costs consist primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX, which are included in the Midstream segment. Corporate costs include depreciation and amortization of $55 million, $165 million and $165 million for the years ended December 31, 2022, 2021 and 2020, respectively.

2022 Compared to 2021

Corporate expenses increased $57 million in 2022 compared to 2021 primarily driven by stock-based and special award compensation expense and retroactive operating tax assessments for prior periods. The company will continue to pursue recovery of these tax assessments. These increases were partially offset by decreased depreciation and amortization of $110 million mainly due to 2021 asset impairments of $56 million and assets that were fully depreciated in 2021.

2021 Compared to 2020

Corporate expenses decreased $104 million in 2021 compared to 2020 largely due to cost reductions realized from our 2020 workforce reduction and other cost control efforts.

Items not Allocated to Segments

Our CODM evaluates the performance of our segments using segment adjusted EBITDA. Items identified in the table below are either believed to be non-recurring in nature or not believed to be allocable, controlled by the segment or are not tied to the operational performance of the segment.

Key Financial Information *(in millions)*		2022		2021		2020
Items not allocated to segments:						
Gain on sale of assets	$	1,058	$	—	$	66
Renewable volume obligation requirements		238		—		—
Litigation		27		—		84
Impairments		—		(13)		(9,741)
Idling facility expenses		—		(12)		—
Restructuring expense		—		—		(367)
Transaction-related costs[a]		—		—		(8)
Total items not allocated to segments	$	1,323	$	(25)	$	(9,966)

[a] 2020 includes costs incurred in connection with the Midstream strategic review and other related efforts. Costs incurred in connection with the Speedway separation are included in discontinued operations.

2022 Compared to 2021

Total items not allocated to segments primarily include the non-cash gain of $549 million on the formation of the Martinez Renewable joint venture, the non-cash gain of $509 million on a lease reclassification, and a $238 million benefit related to retroactive changes in renewable volume obligation requirements published by the EPA for 2020 and 2021.

2021 Compared to 2020

Unallocated items in 2020 include impairment charges of $9.74 billion which includes $8.43 billion related to goodwill and long-lived assets and $1.32 billion related to equity method investments. See Item 8. Financial Statements and Supplementary Data – Note 7 for additional information.

During 2020, we indefinitely idled our Gallup refinery, initiated actions to strategically reposition our Martinez refinery to a renewable diesel facility and approved an involuntary workforce reduction plan. In connection with these strategic actions, we recorded restructuring expenses of $367 million for the year ended December 31, 2020. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information.

Other unallocated items in 2020 include a favorable litigation settlement of $84 million and gain on sale of assets of $66 million related to the sale of three asphalt terminals and certain other Refining & Marketing assets.

Non-GAAP Financial Measure

Management uses a financial measure to evaluate our operating performance that is calculated and presented on the basis of methodologies other than in accordance with GAAP. We believe this non-GAAP financial measure is useful to investors and analysts to assess our ongoing financial performance because, when reconciled to its most comparable GAAP financial measure, it provides improved comparability between periods through the exclusion of certain items that we believe are not indicative of our core operating performance and that may obscure our underlying business results and trends. This measure should not be considered a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP, and our calculation thereof may not be comparable to similarly titled measures reported by other companies. The non-GAAP financial measure we use is as follows:

Refining & Marketing Margin

Refining margin is defined as sales revenue less the cost of refinery inputs and purchased products and excludes other items reflected in the table below.

Reconciliation of Refining & Marketing income (loss) from operations to Refining & Marketing gross margin and Refining & Marketing margin

(In millions)	2022	2021	2020
Refining & Marketing income (loss) from operations	$ 16,437	$ 1,016	$ (5,189)
Plus (Less):			
Selling, general and administrative expenses	2,294	2,021	2,030
Income from equity method investments	(31)	(59)	(2)
Net gain on disposal of assets	(37)	(6)	(1)
Other income	(686)	(369)	(35)
Refining & Marketing gross margin	17,977	2,603	(3,197)
Plus (Less):			
Operating expenses (excluding depreciation and amortization)	10,683	9,806	9,694
Depreciation and amortization	1,850	1,870	1,857
Gross margin and other income excluded from Refining & Marketing margin[(a)]	82	(485)	(365)
Other taxes included in Refining & Marketing margin	(173)	(142)	(79)
Refining & Marketing margin	30,419	13,652	7,910
LIFO inventory (credit) charge	(148)	—	561
Refining & Marketing margin, excluding LIFO inventory (credit) charge	$ 30,271	$ 13,652	$ 8,471

(a) Reflects the gross margin, excluding depreciation and amortization, of other related operations included in the Refining & Marketing segment and processing of credit card transactions on behalf of certain of our marketing customers, net of other income.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows

Our cash and cash equivalents balance for continuing operations was $8.63 billion at December 31, 2022, compared to $5.29 billion at December 31, 2021. Net cash provided by (used in) operating activities, investing activities and financing activities for the past three years is presented in the following table.

(In millions)	2022	2021	2020
Net cash provided by (used in):			
Operating activities - continuing operations	$ 16,319	$ 8,384	$ 807
Operating activities - discontinued operations	42	(4,024)	1,612
Total operating activities	16,361	4,360	2,419
Investing activities - continuing operations	623	(6,517)	(2,922)
Investing activities - discontinued operations	—	21,314	(335)
Total investing activities	623	14,797	(3,257)
Financing activities	(13,647)	(14,419)	(135)
Total increase (decrease) in cash	$ 3,337	$ 4,738	$ (973)

Operating Activities

Continuing Operations

Net cash provided by operating activities from continuing operations increased $7.94 billion in 2022 compared to 2021, primarily due to an increase in operating results partially offset by an unfavorable change in working capital of $2.29 billion. Net cash provided by operating activities from continuing operations increased $7.58 billion in 2021 compared to 2020, primarily due to an increase in operating results and a favorable change in working capital of $633 million. The above changes in working capital exclude changes in short-term debt.

For 2022, changes in working capital were a net $1.34 billion use of cash, primarily due to the effect of increases in energy commodity prices and volumes at the end of the year on working capital. Current receivables increased primarily due to higher crude and refined product volumes and prices. Inventories increased primarily due to increases in crude, refined product and materials and supplies inventories. Accounts payable increased primarily due to increases in crude prices.

For 2021, changes in working capital were a net $947 million source of cash, primarily due to the effect of increases in energy commodity prices and volumes at the end of the year on working capital. Accounts payable increased primarily due to increases in crude prices and volumes. Current receivables increased primarily due to higher crude and refined product prices and volumes.

For 2020, changes in working capital were a net $314 million source of cash, primarily due to the effect of decreases in energy commodity prices, inventory and refined product volumes on working capital. Accounts payable decreased primarily due to lower crude payable prices. Current receivables decreased primarily due to lower crude and refined product receivable prices and refined product volumes. Inventories decreased mainly due to decreases in refined product, crude and materials and supplies inventories.

Discontinued Operations

Net cash provided by operating activities from discontinued operations was $42 million in 2022 largely due to the settlement of working capital related to the Speedway sale, partially offset by the payment of state income tax liabilities. Net cash used in operating activities from discontinued operations was $4.02 billion in 2021 primarily due to tax payments related to the sale of Speedway, partially offset by a partial year of business income due to the sale of Speedway on May 14, 2021. Net cash provided by operating activities from discontinued operations in 2020 includes Speedway business income.

Investing Activities

Continuing Operations

Net cash provided by investing activities from continuing operations was $623 million in 2022, compared to net cash used of $6.52 billion and $2.92 billion in 2021 and 2020, respectively.

- In 2022, the change in net cash provided by continuing operations was primarily due to maturities and sales of short-term investments of $7.16 billion and $1.30 billion, respectively, partially offset by purchases of short-term investments of $6.02 billion. The cash provided by maturities and sales of short-term investments was primarily used to fund our return of capital initiatives announced as part of the Speedway sale.
- In 2021, proceeds from the sale of Speedway were used to purchase $12.50 billion of short-term investments and cash of $5.41 billion and $1.54 billion was provided by the maturities and sales, respectively, of short-term investments. The cash provided by maturities and sales of short-term investments was primarily used to fund our return of capital initiatives announced as part of the Speedway sale.
- Cash used for additions to property, plant and equipment was $2.42 billion in 2022, compared to $1.46 billion in 2021 and $2.79 billion in 2020, primarily due to spending in our Refining & Marketing and Midstream segments in 2022. See discussion of capital expenditures and investments under the “Capital Spending” section.
- Cash used for acquisitions was $413 million in 2022 primarily due to the purchase of Crowley Coastal Partner’s interest in Crowley Ocean Partners LLC and its four subsidiaries for approximately $485 million, which included $196 million to pay off the debt associated with the four tankers.
- Cash provided by net investments was $110 million in 2022 compared to a net use of cash of $171 million in 2021 and $348 million in 2020. Investments in 2022 include a $500 million cash distribution received from the Martinez Renewable joint venture at its formation, partially offset by increased contributions to equity method investments, which included the $60 million contribution to MPLX’s Bakken Pipeline joint venture to fund its share of a debt repayment by the joint venture. Investments in 2021 primarily include midstream projects and our joint venture with ADM. The decrease from 2020 is due to the completion of the South Texas Gateway Terminal, the Gray Oak Pipeline and the Whistler Pipeline projects which were included in 2020 net investments.
- Cash provided by disposal of assets totaled $90 million, $153 million and $150 million in 2022, 2021 and 2020, respectively. In 2022 and 2021, we primarily sold Midstream assets and in 2020, we sold three asphalt terminals and other Refining & Marketing assets.

The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. A reconciliation of additions to property, plant and equipment to total capital expenditures and investments follows for each of the last three years.

(In millions)	2022	2021	2020
Additions to property, plant and equipment per consolidated statements of cash flows	$ 2,420	$ 1,464	$ 2,787
Increase (decrease) in capital accruals	(37)	141	(518)
Total capital expenditures	2,383	1,605	2,269
Investments in equity method investees	405	210	485
Total capital expenditures and investments	$ 2,788	$ 1,815	$ 2,754

Discontinued Operations

Net cash provided by investing activities from discontinued operations in 2021 primarily includes the $21.38 billion proceeds from the sale of Speedway, partially offset primarily by cash used for Speedway capital expenditures of $177 million. Net cash used in investing activities for discontinued operations for 2020 primarily includes Speedway capital expenditures.

Financing Activities

Financing activities were a use of cash of $13.65 billion in 2022, $14.42 billion in 2021 and $135 million in 2020.

- During 2022, MPLX issued $2.5 billion of senior notes, redeemed $1.0 billion of senior notes and had net payments of $300 million under its revolving credit facility.
- During 2021, we reduced debt through the following actions:
  - On December 2, 2021, all of the $1.25 billion outstanding aggregate principal amount of MPC's 4.5% senior notes due May 2023 and the $850 million outstanding aggregate principal amount of MPC’s 4.75% senior notes due December 2023, including the portion of such notes for which Andeavor LLC was the obligor, were redeemed at a price equal to par, plus a make-whole premium calculated in accordance with the terms of the senior notes and accrued and unpaid interest to, but not including, the redemption date. MPC funded the redemption amount with cash on hand.
  - In June 2021, we redeemed all of the $300 million outstanding aggregate principal amount of MPC’s 5.125% senior notes due April 2024 at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.
  - In May 2021, we repaid all outstanding commercial paper borrowings, which, along with cash had been used to finance the fourth quarter 2020 repayments of two series of MPC’s senior notes in the aggregate total principal amount of $1.13 billion.
  - On March 1, 2021, we repaid the $1 billion outstanding aggregate principal amount of MPC’s 5.125% senior notes due March 2021.
- In 2021, MPLX redeemed $1.75 billion of senior notes and had net borrowings of $300 million under its revolving credit facility.
- During 2020, MPC issued $2.5 billion of senior notes, redeemed $1.13 billion of senior notes, borrowed and repaid $4.23 billion under its revolving credit facility and borrowed and repaid $3.55 billion under its trade receivables facility. MPLX issued $3.0 billion of senior notes, which were used to repay $1.0 billion of outstanding borrowings under its term loan, $1.0 billion of floating rate senior notes and to redeem $750 million of fixed rate senior notes and had net borrowings of $175 million under its revolving credit facility.
- Cash used in common stock repurchases totaled $11.92 billion in 2022 and $4.65 billion in 2021. See the “Capital Requirements” section for further discussion of our stock repurchases.
- Cash used in dividend payments totaled $1.28 billion in 2022, $1.48 billion in 2021 and $1.51 billion in 2020. Dividends per share were $2.49 in 2022, $2.32 in 2021 and $2.32 in 2020. The decreases in 2022 and 2021 are primarily due to share repurchases, partially offset by an increase in per share dividends in 2022.
- Cash used in distributions to noncontrolling interests totaled $1.21 billion in 2022, $1.45 billion in 2021 and $1.24 billion in 2020. MPLX’s distributions in 2021 included a supplemental distribution amount of $0.5750 per common unit.
- Cash used in repurchases of noncontrolling interests totaled $491 million in 2022, $630 million in 2021 and $33 million in 2020 due to MPLX’s repurchases of its common units. See the “Capital Requirements” section for further discussion of MPLX’s unit repurchases.

Derivative Instruments

See Item 7A. Quantitative and Qualitative Disclosures about Market Risk for a discussion of derivative instruments and associated market risk.

Capital Resources

MPC, Excluding MPLX

We control MPLX through our ownership of the general partner; however, the creditors of MPLX do not have recourse to MPC's general credit through guarantees or other financial arrangements, except as noted. MPC has effectively guaranteed certain indebtedness of LOOP and LOCAP, in which MPLX holds an interest. Therefore, in the following table, we present the liquidity of MPC, excluding MPLX. MPLX liquidity is discussed in the following section.

Our liquidity, excluding MPLX, totaled $16.53 billion at December 31, 2022 consisting of:

	December 31, 2022			
(In millions)	Total Capacity	Outstanding Borrowings	Outstanding Letters of Credit	Available Capacity
Bank revolving credit facility	$ 5,000	$ —	$ 1	$ 4,999
Trade receivables facility[(a)]	100	—	100	—
Total	$ 5,100	$ —	$ 101	$ 4,999
Cash and cash equivalents and short-term investments[(b)]				11,532
Total liquidity				16,531

(a) The committed borrowing and letter of credit issuance capacity of the trade receivables securitization facility is $100 million. In addition, the facility allows for the issuance of letters of credit in excess of the committed capacity at the discretion of the issuing banks. As of December 31, 2022, letters of credit in the total amount of $1.05 billion were issued and outstanding under the facility to secure contracts awarded by the Department of Energy to purchase crude oil from the Strategic Petroleum Reserve.

(b) Excludes $238 million of MPLX cash and cash equivalents.

Because of the alternatives available to us, including internally generated cash flow and access to capital markets and a commercial paper program, we believe that our short-term and long-term liquidity is adequate to fund not only our current operations, but also our near-term (less than twelve months) and long-term funding requirements, including capital spending programs, the repurchase of shares of our common stock, dividend payments, defined benefit plan contributions, repayment of debt maturities and other amounts that may ultimately be paid in connection with contingencies.

We have a commercial paper program that allows us to have a maximum of $2.0 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities. At December 31, 2022, we had no borrowings outstanding under the commercial paper program.

On July 7, 2022, MPC entered into a new five-year revolving credit agreement (the "MPC Credit Agreement") to replace its previous $5.0 billion credit facility that was scheduled to expire in October 2023. The MPC Credit Agreement, among other things, provides for a $5.0 billion unsecured revolving credit facility that matures in July 2027 and letter of credit issuing capacity under the facility of up to $2.2 billion. Letters of credit issuing capacity is included in, not in addition to, the $5.0 billion borrowing capacity. The financial covenants of the MPC Credit Agreement are substantially the same as those contained in the previous credit agreement.

The MPC Credit Agreement and trade receivables facility contain representations and warranties, affirmative and negative covenants and events of default that we consider usual and customary for agreements of these types. The financial covenant included in the MPC Credit Agreement requires us to maintain, as of the last day of each fiscal quarter, a ratio of Consolidated Net Debt to Total Capitalization (as defined in the MPC Credit Agreement) of no greater than 0.65 to 1.00. Other covenants restrict us and/or certain of our subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2022, we were in compliance with the covenants contained in the MPC Credit Agreement and our trade receivables facility, including the financial covenant with a ratio of Consolidated Net Debt to Total Capitalization of approximately 0 to 1.00.

Our intention is to maintain an investment-grade credit profile. As of February 1, 2023, the credit ratings on our senior unsecured debt are as follows.

Company	Rating Agency	Rating
MPC	Moody's	Baa2 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB (stable outlook)

The ratings reflect the respective views of the rating agencies. Although it is our intention to maintain a credit profile that supports an investment-grade rating, there is no assurance that these ratings will continue for any given period of time. The ratings may be revised or withdrawn entirely by the rating agencies if, in their respective judgments, circumstances so warrant.

The MPC Credit Agreement does not contain credit rating triggers that would result in the acceleration of interest, principal or other payments in the event that our credit ratings are downgraded. However, any downgrades of our senior unsecured debt could increase the applicable interest rates, yields and other fees payable under such agreements and may limit our flexibility to obtain financing in the future, including to refinance existing indebtedness. In addition, a downgrade of our senior unsecured debt rating to below investment-grade levels could, under certain circumstances, impact our ability to purchase crude oil on an unsecured basis and could result in us having to post letters of credit under existing transportation services or other agreements.

See Item 8. Financial Statements and Supplementary Data – Note 22 for further discussion of our debt.

MPLX

MPLX's liquidity totaled $3.74 billion at December 31, 2022 consisting of:

	December 31, 2022			
(In millions)	Total Capacity	Outstanding Borrowings	Outstanding Letters of Credit	Available Capacity
MPLX bank revolving credit facility	$ 2,000	$ —	$ —	$ 2,000
MPC intercompany loan agreement	1,500	—	—	1,500
Total	$ 3,500	$ —	$ —	$ 3,500
Cash and cash equivalents				238
Total liquidity				$ 3,738

On March 14, 2022, MPLX issued $1.5 billion aggregate principal amount of 4.950% senior notes due March 2052 in an underwritten public offering. The net proceeds were used to repay amounts outstanding under the MPC intercompany loan agreement and under the previous MPLX credit agreement.

On July 7, 2022, MPLX entered into a new five-year revolving credit agreement (the "MPLX Credit Agreement") to replace its previous $3.5 billion credit facility that was scheduled to expire in July 2024. The MPLX Credit Agreement, among other things, provides for a $2.0 billion unsecured revolving credit facility that matures in July 2027 and letter of credit issuing capacity under the facility of up to $150 million. Letters of credit issuing capacity is included in, not in addition to, the $2.0 billion borrowing capacity. The financial covenants of the MPLX Credit Agreement are substantially the same as those contained in the previous credit agreement.

On August 11, 2022, MPLX issued $1.0 billion aggregate principal amount of 4.950% senior notes due September 2032 in an underwritten public offering. The net proceeds were used to redeem all of the $500 million aggregate principal amount of 3.500% senior notes due December 2022, $14 million of which was issued by Andeavor Logistics LP, and to redeem all of the $500 million aggregate principal amount of 3.375% senior notes due March 2023.

The MPLX Credit Agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type. The financial covenant requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA (both as defined in the MPLX Credit Agreement) for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. Other covenants restrict MPLX and/or certain of its subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2022, MPLX was in compliance with the covenants, including the financial covenant with a ratio of Consolidated Total Debt to Consolidated EBITDA of 3.5 to 1.0.

Our intention is to maintain an investment-grade credit profile for MPLX. As of February 1, 2023, the credit ratings on MPLX's senior unsecured debt are as follows.

Company	Rating Agency	Rating
MPLX	Moody's	Baa2 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB (stable outlook)

The ratings reflect the respective views of the rating agencies. Although it is our intention to maintain a credit profile that supports an investment-grade rating for MPLX, there is no assurance that these ratings will continue for any given period of time. The ratings may be revised or withdrawn entirely by the rating agencies if, in their respective judgments, circumstances so warrant.

The agreements governing MPLX's debt obligations do not contain credit rating triggers that would result in the acceleration of interest, principal or other payments in the event that MPLX credit ratings are downgraded. However, any downgrades of MPLX senior unsecured debt to below investment grade ratings could increase the applicable interest rates, yields and other fees payable under such agreements. In addition, a downgrade of MPLX senior unsecured debt ratings to below investment-grade levels may limit MPLX's ability to obtain future financing, including to refinance existing indebtedness.

See Item 8. Financial Statements and Supplementary Data – Note 22 for further discussion of MPLX's debt.

Capital Requirements

Capital Spending

MPC's capital investment plan for 2023 totals approximately $1.3 billion for capital projects and investments, excluding capitalized interest, potential acquisitions and MPLX's capital investment plan. MPC's 2023 capital investment plan includes all of the planned capital spending for Refining & Marketing and Corporate as well as a portion of the planned capital investments for Midstream. The remainder of the planned capital spending for Midstream reflects the capital investment plan for MPLX. We continuously evaluate our capital plan and make changes as conditions warrant. The 2023 capital investment plan for MPC and MPLX and capital expenditures and investments for each of the last three years are summarized by segment below.

(In millions)	2023 Plan	2022	2021	2020
Capital expenditures and investments:[a]				
MPC, excluding MPLX				
Refining & Marketing	$ 1,250	$ 1,508	$ 911	$ 1,170
Midstream - Other	—	8	50	221
Corporate and Other[b]	50	108	105	80
Total MPC, excluding MPLX	$ 1,300	$ 1,624	$ 1,066	$ 1,471
MPC discontinued operations - Speedway	$ —	$ —	$ 177	$ 277
Midstream - MPLX[c]	$ 950	$ 1,061	$ 681	$ 1,177

(a) Capital expenditures include changes in capital accruals.

(b) Excludes capitalized interest of $103 million, $68 million and $106 million for 2022, 2021 and 2020, respectively. The 2023 capital investment plan excludes capitalized interest.

(c) The 2023 capital investment plan excludes reimbursable capital.

Refining & Marketing

The Refining & Marketing segment's forecasted 2023 capital spending and investments is approximately $1.25 billion. This amount includes approximately $350 million of growth capital for low carbon projects, primarily the Martinez facility conversion and an emissions reduction project at our Los Angeles refinery. There is also $550 million of growth capital focused on traditional projects such as the STAR project and projects that we expect will help us reduce future operating costs and improve the competitive position of our assets. Maintenance capital is expected to be approximately $350 million which is essential to maintain the safety, integrity and reliability of our assets.

Major capital projects completed over the last three years have focused on refinery optimization, production of higher value products, increased capacity to upgrade residual fuel oil and expanded export capacity. We also focused on projects such as the Martinez facility conversion, the STAR project at our Galveston Bay refinery, which is scheduled to complete in the first half of 2023, and projects expected to reduce future operating costs.

Midstream

MPLX's capital investment plan of $950 million, net of reimbursements, includes approximately $800 million of organic growth capital and $150 million of maintenance capital. MPLX's growth capital plans are anchored in the Marcellus, Permian, and Bakken basins. In addition to new gas processing plants in the Marcellus and Permian, the remainder of MPLX's capital plan is mostly focused on other investments targeted at the expansion or debottlenecking of existing assets to meet customer demand.

Major capital projects over the last three years included investments for the development of natural gas and natural gas liquids infrastructure to support MPLX's producer customers, primarily in the Marcellus, Utica and Permian regions and development of various crude oil and refined petroleum products infrastructure projects.

Corporate and Other

The 2023 capital forecast includes approximately $50 million to support corporate and other activities. Major projects over the last three years included upgrades to information technology systems.

Share Repurchases

From January 1, 2012 through December 31, 2022, our board of directors has approved $35.05 billion in total share repurchase authorizations and we have repurchased a total of $31.72 billion of our common stock. As of December 31, 2022, MPC had $3.33 billion remaining under its share repurchase authorizations, which reflects the repurchase of 830,000 common shares for $96 million that settled in the first quarter of 2023. On January 31, 2023, we announced our board of directors approved an incremental $5.0 billion share repurchase authorization. The authorization has no expiration date. The table below summarizes our total share repurchases. See Item 8. Financial Statements and Supplementary Data – Note 11 for further discussion of the share repurchase plans.

(In millions, except per share data)	2022	2021	2020
Number of shares repurchased	131	76	—
Cash paid for shares repurchased	$ 11,922	$ 4,654	$ —
Average cost per share	$ 91.20	$ 62.65	$ —

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, tender offers, accelerated share repurchases or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be suspended or discontinued at any time.

MPLX Unit Repurchases

The table below summarizes MPLX's total unit repurchases.

(In millions, except per share data)	2022	2021	2020
Number of common units repurchased	15	23	1
Cash paid for common units repurchased	$ 491	$ 630	$ 33
Average cost per unit	$ 31.96	$ 27.52	$ 22.29

As of December 31, 2022, MPLX had approximately $846 million remaining under its unit repurchase authorizations. The repurchase authorizations have no expiration date.

MPLX may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated unit repurchases, tender offers or open market solicitations for units, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be discontinued at any time.

See Item 8. Financial Statements and Supplementary Data – Note 6 for further discussion of the MPLX unit repurchase program.

Material Cash Commitments

Contractual Obligations

We have purchase commitments primarily consisting of obligations to purchase and transport crude oil and feedstocks used in our refining operations. As of December 31, 2022, we had purchase obligations for crude oil, NGLs and renewable feedstocks of $23.11 billion, with $16.96 billion payable within 12 months, and crude oil transportation obligations of $6.19 billion, with $655 million payable within 12 months. These contracts include variable price arrangements. For purposes of this disclosure, we have estimated prices to be paid primarily based on futures curves for the commodities to the extent available. Our contractual obligations do not include our contractual obligations to MPLX under various fee-based commercial agreements as these transactions are eliminated in the consolidated financial statements.

At December 31, 2022, we have non-cancelable obligations to acquire property, plant and equipment of $289 million, with $261 million payable within 12 months.

At December 31, 2022, we have aggregate principal amount of outstanding debt of $26.55 billion, with $1.0 billion payable within 12 months, and interest on the debt of $16.70 billion, with $1.20 billion payable within 12 months. See Item 8. Financial Statements and Supplementary Data – Note 22 for additional information on our debt.

Our other contractual obligations primarily consist of finance and operating leases and pension and post-retirement obligations, for which additional information is included in Item 8. Financial Statements and Supplementary Data – Notes 28 and 26, respectively.

Other Cash Commitments

On January 27, 2023, we announced our board of directors approved a $0.75 per share dividend, payable March 10, 2023 to shareholders of record at the close of business on February 16, 2023.

We may, from time to time, repurchase our senior notes and preferred units in the open market, in tender offers, in privately-negotiated transactions or otherwise in such volumes, at such prices and upon such other terms as we deem appropriate.

TRANSACTIONS WITH RELATED PARTIES

See Item 8. Financial Statements and Supplementary Data – Note 9 for discussion of activity with related parties.

ENVIRONMENTAL MATTERS AND COMPLIANCE COSTS

We have incurred and may continue to incur substantial capital, operating and maintenance, and remediation expenditures as a result of environmental laws and regulations. If these expenditures, as with all costs, are not ultimately reflected in the prices of our products and services, our operating results will be adversely affected. We believe that substantially all of our competitors must comply with similar environmental laws and regulations. However, the specific impact on each competitor may vary depending on a number of factors, including the age and location of its operating facilities, marketing areas, production processes and whether it is also engaged in the petrochemical business or the marine transportation of crude oil and refined products.

Legislation and regulations pertaining to fuel specifications, climate change and GHG emissions have the potential to materially adversely impact our business, financial condition, results of operations and cash flows, including costs of compliance and permitting delays. The extent and magnitude of these adverse impacts cannot be reliably or accurately estimated at this time because specific regulatory and legislative requirements have not been finalized and uncertainty exists with respect to the measures being considered, the costs and the time frames for compliance, and our ability to pass compliance costs on to our customers.

Our environmental expenditures, including non-regulatory expenditures, for each of the last three years were:

(In millions)	2022	2021	2020
Capital	$ 167	$ 118	$ 121
Compliance:[(a)]			
Operating and maintenance	987	819	469
Remediation[(b)]	72	54	40
Total	$ 1,226	$ 991	$ 630

(a) Based on the American Petroleum Institute’s definition of environmental expenditures.

(b) These amounts include spending charged against remediation reserves, where permissible, but exclude non-cash provisions recorded for environmental remediation. Environmental remediation costs increased in 2022 compared to 2021 primarily due to a release of crude oil on an MPLX pipeline near Edwardsville, Illinois in March of 2022.

We accrue for environmental remediation activities when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. As environmental remediation matters proceed toward ultimate resolution or as additional remediation obligations arise, charges in excess of those previously accrued may be required.

New or expanded environmental requirements, which could increase our environmental costs, may arise in the future. It is not possible to predict all of the ultimate costs of compliance, including remediation costs that may be incurred and penalties that may be imposed.

Our environmental capital expenditures accounted for 7 percent, 8 percent and 6 percent of capital expenditures, for 2022, 2021 and 2020, respectively, excluding acquisitions. Our environmental capital expenditures are expected to be approximately $179 million, or 8 percent, of total planned capital expenditures in 2023. Actual expenditures may vary as the number and scope of environmental projects are revised as a result of improved technology or changes in regulatory requirements and could increase if additional projects are identified or additional requirements are imposed.

For more information on environmental regulations that impact us, or could impact us, see Item 1. Business – Regulatory Matters and Item 1A. Risk Factors.

CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in accordance with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods. Accounting estimates are considered to be critical if (1) the nature of the estimates and assumptions is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and (2) the impact of the estimates and assumptions on financial condition or operating performance is material. Actual results could differ from the estimates and assumptions used.

Fair Value Estimates

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. There are three approaches for measuring the fair value of assets and liabilities: the market approach, the income approach and the cost approach, each of which includes multiple valuation techniques. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The income approach uses valuation techniques to measure fair value by converting future amounts, such as cash flows or earnings, into a single present value amount using current market expectations about those future amounts. The cost approach is based on the amount that would currently be required to replace the service capacity of an asset. This is often referred to as current replacement cost. The cost approach assumes that the fair value would not exceed what it would cost a market participant to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence.

The fair value accounting standards do not prescribe which valuation technique should be used when measuring fair value and does not prioritize among the techniques. These standards establish a fair value hierarchy that prioritizes the inputs used in applying the various valuation techniques. Inputs broadly refer to the assumptions that market participants use to make pricing decisions, including assumptions about risk. Level 1 inputs are given the highest priority in the fair value hierarchy while Level 3 inputs are given the lowest priority. The three levels of the fair value hierarchy are as follows:

- Level 1 – Observable inputs that reflect unadjusted quoted prices for identical assets or liabilities in active markets as of the measurement date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.
- Level 2 – Observable market-based inputs or unobservable inputs that are corroborated by market data. These are inputs other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the measurement date.
- Level 3 – Unobservable inputs that are not corroborated by market data and may be used with internally developed methodologies that result in management's best estimate of fair value.

Valuation techniques that maximize the use of observable inputs are favored. Assets and liabilities are classified in their entirety based on the lowest priority level of input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the placement of assets and liabilities within the levels of the fair value hierarchy. We use an income or market approach for recurring fair value measurements and endeavor to use the best information available. See Item 8. Financial Statements and Supplementary Data – Note 20 for disclosures regarding our fair value measurements.

Significant uses of fair value measurements include:

- assessment of impairment of long-lived assets;
- assessment of impairment of intangible assets:
- assessment of impairment of goodwill;
- assessment of impairment of equity method investments;
- recorded values for assets acquired and liabilities assumed in connection with acquisitions; and
- recorded values of derivative instruments.

Impairment Assessments of Long-Lived Assets, Intangible Assets, Goodwill and Equity Method Investments

Fair value calculated for the purpose of testing our long-lived assets, intangible assets, goodwill and equity method investments for impairment is estimated using the expected present value of future cash flows method and comparative market prices when appropriate. Significant judgment is involved in performing these fair value estimates since the results are based on forecasted financial information prepared using significant assumptions including:

- *Future operating performance*. Our estimates of future operating performance are based on our analysis of various supply and demand factors, which include, among other things, industry-wide capacity, our planned utilization rate, end-user demand, capital expenditures and economic conditions. Such estimates are consistent with those used in our planning and capital investment reviews.

- *Future volumes*. Our estimates of future refinery, pipeline throughput and natural gas and natural gas liquid processing volumes are based on internal forecasts prepared by our Refining & Marketing and Midstream segments operations personnel. Assumptions about the effects of the COVID-19 pandemic on our future volumes are inherently subjective and contingent upon the duration of the pandemic, which is difficult to forecast.
- *Discount rate commensurate with the risks involved*. We apply a discount rate to our cash flows based on a variety of factors, including market and economic conditions, operational risk, regulatory risk and political risk. This discount rate is also compared to recent observable market transactions, if possible. A higher discount rate decreases the net present value of cash flows.
- *Future capital requirements*. These are based on authorized spending and internal forecasts.

Assumptions about the macroeconomic environment are inherently subjective and difficult to forecast. We base our fair value estimates on projected financial information which we believe to be reasonable. However, actual results may differ from these projections.

The need to test for impairment can be based on several indicators, including a significant reduction in prices of or demand for products produced, a weakened outlook for profitability, a significant reduction in pipeline throughput volumes, a significant reduction in natural gas or natural gas liquids processed, a significant reduction in refining margins, other changes to contracts or changes in the regulatory environment. The following sections detail our critical accounting estimates related to impairment assessments for long-lived assets, goodwill and equity method investments.

Long-lived Asset Impairment Assessments

Long-lived assets used in operations are assessed for impairment whenever changes in facts and circumstances indicate that the carrying value of the assets may not be recoverable based on the expected undiscounted future cash flow of an asset group. For purposes of impairment evaluation, long-lived assets must be grouped at the lowest level for which independent cash flows can be identified, which generally is the refinery and associated distribution system level for Refining & Marketing segment assets, and the plant level or pipeline system level for Midstream segment assets. If the sum of the undiscounted estimated pretax cash flows is less than the carrying value of an asset group, fair value is calculated, and the carrying value is written down to the calculated fair value.

Goodwill Impairment Assessments

Unlike long-lived assets, goodwill is subject to annual, or more frequent if necessary, impairment testing at the reporting unit level. A goodwill impairment loss is measured as the amount by which a reporting unit's carrying value exceeds its fair value, without exceeding the recorded amount of goodwill.

At December 31, 2022, MPC had four reporting units with goodwill totaling approximately $8.24 billion. The majority of this balance is comprised of the Midstream reporting units, including $1.1 billion for the MPLX Crude Gathering reporting unit and $6.6 billion for the MPLX Transportation & Storage reporting unit. For the annual impairment assessment as of November 30, 2022, management performed only a qualitative assessment for three reporting units as we determined it was more likely than not that the fair value of the reporting units exceeded the carrying value. Significant assumptions used to estimate the reporting units’ fair value under a qualitative approach included estimates of future cash flows and market information for comparable assets. A quantitative assessment was performed for the MPLX Crude Gathering reporting unit, which resulted in the fair value of the reporting unit exceeding its carrying value by greater than 10 percent. The fair value of the reporting unit was determined based on applying both a discounted cash flow method (i.e., income approach) as well as a market approach. An increase of one percentage point to the discount rate used to estimate the fair value of the reporting units would not have resulted in a goodwill impairment charge as of November 30, 2022. Significant assumptions that were used to estimate the Crude Gathering reporting unit’s fair values under the discounted cash flow method included management’s best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customers’ development plans, which impact future volumes and capital requirements. If estimates for future cash flows were to decline, the overall reporting units’ fair values would decrease, resulting in potential goodwill impairment charges. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment tests will prove to be an accurate prediction of the future.

Equity Method Investment Impairment Assessment

Equity method investments are assessed for impairment whenever factors indicate an other than temporary loss in value. Factors providing evidence of such a loss include the fair value of an investment that is less than its carrying value, absence of an ability to recover the carrying value or the investee’s inability to generate income sufficient to justify our carrying value. At December 31, 2022, we had $6.47 billion of investments in equity method investments recorded on our consolidated balance sheet.

See Item 8. Financial Statements and Supplementary Data – Note 16 for additional information on our equity method investments. See Item 8. Financial Statements and Supplementary Data – Note 18 for additional information on our goodwill and intangibles, including a table summarizing our recorded goodwill by segment.

Derivatives

We record all derivative instruments at fair value. Substantially all of our commodity derivatives are cleared through exchanges which provide active trading information for identical derivatives and do not require any assumptions in arriving at fair value. Fair value estimation for all our derivative instruments is discussed in Item 8. Financial Statements and Supplementary Data – Note 20. Additional information about derivatives and their valuation may be found in Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Variable Interest Entities

We evaluate all legal entities in which we hold an ownership or other pecuniary interest to determine if the entity is a VIE. Our interests in a VIE are referred to as variable interests. Variable interests can be contractual, ownership or other pecuniary interests in an entity that change with changes in the fair value of the VIE's assets. When we conclude that we hold an interest in a VIE we must determine if we are the entity's primary beneficiary. A primary beneficiary is deemed to have a controlling financial interest in a VIE. This controlling financial interest is evidenced by both (a) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses that could potentially be significant to the VIE or the right to receive benefits that could potentially be significant to the VIE. We consolidate any VIE when we determine that we are the primary beneficiary. We must disclose the nature of any interests in a VIE that is not consolidated.

Significant judgment is exercised in determining that a legal entity is a VIE and in evaluating our interest in a VIE. We use primarily a qualitative analysis to determine if an entity is a VIE. We evaluate the entity's need for continuing financial support; the equity holder's lack of a controlling financial interest; and/or if an equity holder's voting interests are disproportionate to its obligation to absorb expected losses or receive residual returns. We evaluate our interests in a VIE to determine whether we are the primary beneficiary. We use a primarily qualitative analysis to determine if we are deemed to have a controlling financial interest in the VIE, either on a standalone basis or as part of a related party group. We continually monitor our interests in legal entities for changes in the design or activities of an entity and changes in our interests, including our status as the primary beneficiary to determine if the changes require us to revise our previous conclusions.

Changes in the design or nature of the activities of a VIE, or our involvement with a VIE, may require us to reconsider our conclusions on the entity's status as a VIE and/or our status as the primary beneficiary. Such reconsideration requires significant judgment and understanding of the organization. This could result in the deconsolidation or consolidation of the affected subsidiary, which would have a significant impact on our financial statements.

Variable Interest Entities are discussed in Item 8. Financial Statements and Supplementary Data – Note 8.

Pension and Other Postretirement Benefit Obligations

Accounting for pension and other postretirement benefit obligations involves numerous assumptions, the most significant of which relate to the following:

- the discount rate for measuring the present value of future plan obligations;
- the expected long-term return on plan assets;
- the rate of future increases in compensation levels;
- health care cost projections; and
- the mortality table used in determining future plan obligations.

We utilize the work of third-party actuaries to assist in the measurement of these obligations. We have selected different discount rates for each of our pension plans and retiree health and welfare based on the projected benefit payment patterns of each individual plan. The selected rates are compared to various similar bond indexes for reasonableness. In determining the assumed discount rates, we use our third-party actuaries' discount rate models. These models calculate an equivalent single discount rate for the projected benefit plan cash flows using yield curves derived from Aa or higher corporate bond yields. The yield curves represent a series of annualized individual spot discount rates from 0.5 to 99 years. The bonds used have an average rating of Aa or higher from a recognized rating agency and generally only non-callable bonds are included. Outlier bonds that have a yield to maturity that deviate significantly from the average yield within each maturity grouping are not included. Each issue is required to have at least $300 million par value outstanding.

Of the assumptions used to measure the year-end obligations and estimated annual net periodic benefit cost, the discount rate has the most significant effect on the periodic benefit cost reported for the plans. Decreasing the discount rates of 5.10 percent for our pension plans and 5.00 percent for our other postretirement benefit plans by 0.25 percent would increase pension obligations and other postretirement benefit plan obligations by $64 million and $16 million, respectively, and would increase defined benefit pension expense and other postretirement benefit plan expense by $4 million and less than $1 million, respectively.

The long-term asset rate of return assumption considers the asset mix of the plans (currently targeted at approximately 50 percent equity securities and 50 percent fixed income securities for the primary funded pension plan), past performance and other factors. Certain components of the asset mix are modeled with various assumptions regarding inflation and returns. In addition, our long-term asset rate of return assumption is compared to those of other companies and to historical returns for reasonableness. We used the 5.75 percent long-term rate of return to determine our 2022 defined benefit pension expense. After evaluating activity in the capital markets, along with the current and projected plan investments, we increased the asset rate of return for our primary plan to 7.00 percent effective for 2023. Decreasing the 6.00 percent asset rate of return assumption by 0.25 percentage points would increase our defined benefit pension expense by $6 million.

Compensation change assumptions are based on historical experience, anticipated future management actions and demographics of the benefit plans.

Health care cost trend assumptions are developed based on historical cost data, the near-term outlook and an assessment of likely long-term trends.

We utilized the 2021 mortality tables from the U.S. Society of Actuaries.

Item 8. Financial Statements and Supplementary Data – Note 26 includes detailed information about the assumptions used to calculate the components of our annual defined benefit pension and other postretirement plan expense, as well as the obligations and accumulated other comprehensive loss reported on the year-end balance sheets.

ACCOUNTING STANDARDS NOT YET ADOPTED

Refer to Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements for recently issued financial accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

GENERAL

We are exposed to market risks related to the volatility of crude oil and refined product prices. We employ various strategies, including the use of commodity derivative instruments, to hedge the risks related to these price fluctuations. We are also exposed to market risks related to changes in interest rates and foreign currency exchange rates. As of December 31, 2022, we did not have any financial derivative instruments to hedge the risks related to interest rate fluctuations; however, we have used them in the past, and we continually monitor the market and our exposure and may enter into these agreements again in the future. We are at risk for changes in fair value of all of our derivative instruments; however, such risk should be mitigated by price or rate changes related to the underlying commodity or financial transaction.

We believe that our use of derivative instruments, along with our risk assessment procedures and internal controls, does not expose us to material adverse consequences. While the use of derivative instruments could materially affect our results of operations in particular quarterly or annual periods, we believe that the use of these instruments will not have a material adverse effect on our financial position or liquidity.

See Item 8. Financial Statements and Supplementary Data – Notes 20 and 21 for more information about the fair value measurement of our derivatives, as well as the amounts recorded in our consolidated balance sheets and statements of income. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

Commodity Price Risk

Refining & Marketing

Our strategy is to obtain competitive prices for our products and allow operating results to reflect market price movements dictated by supply and demand. We use a variety of commodity derivative instruments, including futures, swaps and options, as part of an overall program to hedge commodity price risk. We also do a limited amount of trading not directly related to our physical transactions.

We use derivative instruments related to the acquisition of foreign-sourced crude oil and ethanol blended with refined petroleum products to hedge price risk associated with market volatility between the time we purchase the product and when we use it in the refinery production process or it is blended. In addition, we may use commodity derivative instruments on fixed price contracts for the sale of refined products to hedge risk by converting the refined product sales to market-based prices. The majority of these derivatives are exchange-traded contracts, but we also enter into over-the-counter swaps, options and over-the-counter options. We closely monitor and hedge our exposure to market risk on a daily basis in accordance with policies approved by our board of directors. Our positions are monitored daily by a risk control group to ensure compliance with our stated risk management policy.

Midstream

NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors that are beyond MPLX's control. MPLX may at times use a variety of commodity derivative instruments, including futures and options, as part of an overall program to economically hedge commodity price risk. A portion of MPLX's profitability is directly affected by prevailing commodity prices primarily as a result of purchasing and selling NGLs and natural gas at index-related prices. To the extent that commodity prices influence the level of drilling by MPLX producer customers, such prices also indirectly affect profitability. MPLX may enter into derivative contracts, which are primarily swaps traded on the OTC market as well as fixed price forward contracts. MPLX's risk management policy does not allow it to enter into speculative positions with its derivative contracts. Execution of MPLX's hedge strategy and the continuous monitoring of commodity markets and its open derivative positions are carried out by its hedge committee, comprised of members of senior management.

To mitigate MPLX's cash flow exposure to fluctuations in the price of NGLs, it may use NGL derivative swap contracts. A small portion of its NGL price exposure may be managed by using crude oil contracts. To mitigate MPLX's cash flow exposure to fluctuations in the price of natural gas, it may use natural gas derivative swap contracts, taking into account the partial offset of its long and short natural gas positions resulting from normal operating activities.

MPLX would be exposed to additional commodity risk in certain situations such as if producers under-deliver or over-deliver products or if processing facilities are operated in different recovery modes. In the event that MPLX has derivative positions in excess of the product delivered or expected to be delivered, the excess derivative positions may be terminated.

MPLX management conducts a standard credit review on counterparties to derivative contracts, and it has provided the counterparties with a guaranty as credit support for its obligations. MPLX uses standardized agreements that allow for offset of certain positive and negative exposures in the event of default or other terminating events, including bankruptcy.

Open Derivative Positions and Sensitivity Analysis

The following table includes the composition of net losses/gains on our commodity derivative positions for the years ended December 31, 2022 and 2021, respectively.

(In millions)	2022	2021
Realized loss on settled derivative positions	$ (93)	$ (359)
Unrealized gain (loss) on open net derivative positions	35	(21)
Net loss	$ (58)	$ (380)

See Item 8. Financial Statements and Supplementary Data – Note 21 for additional information on our open derivative positions at December 31, 2022.

Sensitivity analysis of the incremental effects on income from operations ("IFO") of hypothetical 10 percent and 25 percent increases and decreases in commodity prices for open commodity derivative instruments as of December 31, 2022 is provided in the following table.

	Change in IFO from a Hypothetical Price Increase of		Change in IFO from a Hypothetical Price Decrease of	
(In millions)	10%	25%	10%	25%
As of December 31, 2022				
Crude	$ (109)	$ (273)	$ 109	$ 273
Refined products	67	169	(67)	(169)
Blending products	(16)	(39)	16	39
Soybean oil	(11)	(27)	11	27

We remain at risk for possible changes in the market value of commodity derivative instruments; however, such risk should be mitigated by price changes in the underlying physical commodity. Effects of these offsets are not reflected in the above sensitivity analysis.

We evaluate our portfolio of commodity derivative instruments on an ongoing basis and add or revise strategies in anticipation of changes in market conditions and in risk profiles. Changes to the portfolio after December 31, 2022 would cause future IFO effects to differ from those presented above.

Interest Rate Risk

Our use of fixed or variable-rate debt directly exposes us to interest rate risk. Fixed rate debt, such as our senior notes, exposes us to changes in the fair value of our debt due to changes in market interest rates. Fixed rate debt also exposes us to the risk that we may need to refinance maturing debt with new debt at higher rates or that our current fixed rate debt may be higher than the current market. Variable-rate debt, such as borrowings under our revolving credit facilities, exposes us to short-term changes in market rates that impact our interest expense. See Item 8. Financial Statements and Supplementary Data – Note 22 for additional information on our debt.

Sensitivity analysis of the effect of a hypothetical 100-basis-point change in interest rates on long-term debt, including the portion classified as current and excluding finance leases, as of December 31, 2022 is provided in the following table. The fair value of cash and cash equivalents, receivables, accounts payable and accrued interest approximate carrying value and, in addition to short-term investments which are recorded at fair value, are relatively insensitive to changes in interest rates due to the short-term maturity of the instruments. Accordingly, these instruments are excluded from the table.

(In millions)	Fair Value[(a)]	Change in Fair Value[(b)]	Change in Net Income for the Year ended December 31, 2022[(c)]
Long-term debt			
Fixed-rate	$ 24,209	$ 1,901	n/a
Variable-rate	$ —	—	$ —

(a) Fair value was based on market prices, where available, or current borrowing rates for financings with similar terms and maturities.

(b) Assumes a 100-basis point decrease in the weighted average yield-to-maturity at December 31, 2022.

(c) Assumes a 100-basis-point change in interest rates. The change in net income was based on the weighted average balance of debt outstanding for the year ended December 31, 2022.

See Item 8. Financial Statements and Supplementary Data – Note 20 for additional information on the fair value of our debt.

Foreign Currency Exchange Rate Risk

We are impacted by foreign exchange rate fluctuations related to some of our purchases of crude oil denominated in Canadian dollars and some of our sales of finished products denominated in Mexican pesos. We did not use derivatives to hedge our market risk exposure to these foreign exchange rate fluctuations in 2022.

Counterparty Risk

MPLX is subject to risk of loss resulting from nonpayment by its customers to whom it provides services, leases assets, or sells natural gas or NGLs. MPLX believes that certain contracts where it sells NGLs and acts as its producer customers' agent would allow it to pass those losses through to its customers, thus reducing its risk, when it is selling NGLs and acting as its producer customers' agent. Its credit exposure related to these customers is represented by the value of its trade receivables or lease receivables. Where exposed to credit risk, MPLX analyzes the customer's financial condition prior to entering into a transaction or agreement, establishes credit terms and monitors the appropriateness of these terms on an ongoing basis. In the event of a customer default, MPLX may sustain a loss and its cash receipts could be negatively impacted.

We are subject to risk of loss resulting from nonpayment or nonperformance by counterparties to our derivative contracts. Our credit exposure related to commodity derivative instruments is represented by the fair value of contracts with a net positive fair value at the reporting date. Outstanding instruments expose us to credit loss in the event of nonperformance by the counterparties to the agreements. Should the creditworthiness of one or more of our counterparties decline, our ability to mitigate nonperformance risk is limited to a counterparty agreeing to either a voluntary termination and subsequent cash settlement or a novation of the derivative contract to a third party. In the event of a counterparty default, we may sustain a loss and our cash receipts could be negatively impacted.

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Management's Responsibilities for Financial Statements

The accompanying consolidated financial statements of Marathon Petroleum Corporation and its subsidiaries ("MPC") are the responsibility of management and have been prepared in conformity with accounting principles generally accepted in the United States of America. They necessarily include some amounts that are based on best judgments and estimates. The financial information displayed in other sections of this Annual Report on Form 10-K is consistent with these consolidated financial statements.

MPC seeks to assure the objectivity and integrity of its financial records by careful selection of its managers, by organizational arrangements that provide an appropriate division of responsibility and by communications programs aimed at assuring that its policies and methods are understood throughout the organization.

The board of directors pursues its oversight role in the area of financial reporting and internal control over financial reporting through its Audit Committee. This committee, composed solely of independent directors, regularly meets (jointly and separately) with the independent registered public accounting firm, management and internal auditors to monitor the proper discharge by each of their responsibilities relative to internal accounting controls and the consolidated financial statements.

/s/ Michael J. Hennigan	/s/ Maryann T. Mannen	/s/ C. Kristopher Hagedorn
Michael J. Hennigan *President and* *Chief Executive Officer*	*Maryann T. Mannen* *Executive Vice President and* *Chief Financial Officer*	*C. Kristopher Hagedorn* *Senior Vice President and* *Controller*

Management's Report on Internal Control over Financial Reporting

MPC's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended). An evaluation of the design and effectiveness of our internal control over financial reporting, based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, was conducted under the supervision and with the participation of management, including our chief executive officer and chief financial officer. Based on the results of this evaluation, MPC's management concluded that its internal control over financial reporting was effective as of December 31, 2022.

The effectiveness of MPC's internal control over financial reporting as of December 31, 2022 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

/s/ Michael J. Hennigan	/s/ Maryann T. Mannen
Michael J. Hennigan *President and* *Chief Executive Officer*	*Maryann T. Mannen* *Executive Vice President and* *Chief Financial Officer*

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Marathon Petroleum Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Marathon Petroleum Corporation and its subsidiaries (the “Company”) as of December 31, 2022 and 2021, and the related consolidated statements of income, of comprehensive income, of equity and redeemable noncontrolling interest and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill Impairment Test - Crude Gathering Reporting Unit

As described in Note 18 to the consolidated financial statements and as disclosed by management, the Company's consolidated goodwill balance was $8.2 billion as of December 31, 2022, which includes, within the Midstream segment, the goodwill associated with MPLX's Crude Gathering reporting unit of $1.1 billion. Management annually evaluates goodwill for impairment as of November 30, as well as whenever events or changes in circumstances indicate it is more likely than not that the fair value of a reporting unit with goodwill is less than its carrying amount. The fair value of the MPLX Crude Gathering reporting unit was determined based on applying both a discounted cash flow method (i.e. income approach) as well as a market approach. Significant assumptions that were used to estimate the reporting unit's fair value under the discounted cash flow method included management's best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customers' development plans, which impact future volumes and capital requirements.

The principal considerations for our determination that performing procedures relating to the goodwill impairment test of the Crude Gathering reporting unit of the Midstream segment is a critical audit matter are (i) the significant judgment by management when determining the fair value of the reporting unit; and (ii) the high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence relating to management's significant assumption related to future volumes.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment test, including controls over the determination of the fair value of the Crude Gathering reporting unit. These procedures also included, among others (i) testing management's process for determining the fair value of the reporting unit; (ii) evaluating the appropriateness of the income and market approaches used; (iii) testing the completeness and accuracy of underlying data used by management in the approaches; and (iv) evaluating the reasonableness of the significant assumption related to future volumes. Evaluating the assumption related to future volumes involved (i) considering whether the assumption used was reasonable considering past performance of the reporting unit, producer customers' historical and future production volumes, and industry outlook reports; and (ii) considering whether the assumption was consistent with evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP

Toledo, Ohio
February 23, 2023

We have served as the Company's auditor since 2010.

Marathon Petroleum Corporation
Consolidated Statements of Income

(In millions, except per share data)	2022	2021	2020
Revenues and other income:			
Sales and other operating revenues	$ 177,453	$ 119,983	$ 69,779
Income (loss) from equity method investments[(a)]	655	458	(935)
Net gain on disposal of assets	1,061	21	70
Other income	783	468	118
Total revenues and other income	179,952	120,930	69,032
Costs and expenses:			
Cost of revenues (excludes items below)	151,671	110,008	65,733
Impairment expense	—	—	8,426
Depreciation and amortization	3,215	3,364	3,375
Selling, general and administrative expenses	2,772	2,537	2,710
Restructuring expenses	—	—	367
Other taxes	825	721	668
Total costs and expenses	158,483	116,630	81,279
Income (loss) from continuing operations	21,469	4,300	(12,247)
Net interest and other financial costs	1,000	1,483	1,365
Income (loss) from continuing operations before income taxes	20,469	2,817	(13,612)
Provision (benefit) for income taxes on continuing operations	4,491	264	(2,430)
Income (loss) from continuing operations, net of tax	15,978	2,553	(11,182)
Income from discontinued operations, net of tax	72	8,448	1,205
Net income (loss)	16,050	11,001	(9,977)
Less net income (loss) attributable to:			
Redeemable noncontrolling interest	88	100	81
Noncontrolling interests	1,446	1,163	(232)
Net income (loss) attributable to MPC	$ 14,516	$ 9,738	$ (9,826)
Per share data (See Note 10)			
Basic:			
Continuing operations	$ 28.17	$ 2.03	$ (16.99)
Discontinued operations	0.14	13.31	1.86
Net income (loss) per share	$ 28.31	$ 15.34	$ (15.13)
Weighted average shares outstanding	512	634	649
Diluted:			
Continuing operations	$ 27.98	$ 2.02	$ (16.99)
Discontinued operations	0.14	13.22	1.86
Net income (loss) per share	$ 28.12	$ 15.24	$ (15.13)
Weighted average shares outstanding	516	638	649

(a) 2020 includes impairment expense. See Note 7 for further information.

The accompanying notes are an integral part of these consolidated financial statements.

Marathon Petroleum Corporation
Consolidated Statements of Comprehensive Income

(Millions of dollars)	2022	2021	2020
Net income (loss)	$ 16,050	$ 11,001	$ (9,977)
Defined benefit plans:			
Actuarial changes, net of tax of $36, $91 and $(51), respectively	122	276	(157)
Prior service, net of tax of $(15), $58 and $(11), respectively	(52)	175	(34)
Other, net of tax of $—, $(2) and $—, respectively	(1)	(6)	(1)
Other comprehensive income (loss)	69	445	(192)
Comprehensive income (loss)	16,119	11,446	(10,169)
Less comprehensive income (loss) attributable to:			
Redeemable noncontrolling interest	88	100	81
Noncontrolling interests	1,446	1,163	(232)
Comprehensive income (loss) attributable to MPC	$ 14,585	$ 10,183	$ (10,018)

The accompanying notes are an integral part of these consolidated financial statements.

Marathon Petroleum Corporation
Consolidated Balance Sheets

(Millions of dollars, except share data)	December 31, 2022		December 31, 2021	
Assets				
Cash and cash equivalents	$	8,625	$	5,291
Short-term investments		3,145		5,548
Receivables, less allowance for doubtful accounts of $29 and $40, respectively		13,477		11,034
Inventories		8,827		8,055
Other current assets		1,168		568
Total current assets		35,242		30,496
Equity method investments		6,466		5,409
Property, plant and equipment, net		35,657		37,440
Goodwill		8,244		8,256
Right of use assets		1,214		1,372
Other noncurrent assets		3,081		2,400
Total assets	$	89,904	$	85,373
Liabilities				
Accounts payable	$	15,312	$	13,700
Payroll and benefits payable		967		911
Accrued taxes		1,140		1,231
Debt due within one year		1,066		571
Operating lease liabilities		368		438
Other current liabilities		1,167		1,047
Total current liabilities		20,020		17,898
Long-term debt		25,634		24,968
Deferred income taxes		5,904		5,638
Defined benefit postretirement plan obligations		1,114		1,015
Long-term operating lease liabilities		841		927
Deferred credits and other liabilities		1,304		1,346
Total liabilities		54,817		51,792
Commitments and contingencies (see Note 29)				
Redeemable noncontrolling interest		968		965
Equity				
Preferred stock, no shares issued and outstanding (par value $0.01 per share, 30 million shares authorized)		—		—
Common stock:				
Issued – 990 million and 984 million shares (par value $0.01 per share, 2 billion shares authorized)		10		10
Held in treasury, at cost – 536 million and 405 million shares		(31,841)		(19,904)
Additional paid-in capital		33,402		33,262
Retained earnings		26,142		12,905
Accumulated other comprehensive income (loss)		2		(67)
Total MPC stockholders’ equity		27,715		26,206
Noncontrolling interests		6,404		6,410
Total equity		34,119		32,616
Total liabilities, redeemable noncontrolling interest and equity	$	89,904	$	85,373

The accompanying notes are an integral part of these consolidated financial statements.

Marathon Petroleum Corporation

Consolidated Statements of Cash Flows

(Millions of dollars)	2022	2021	2020
Operating activities:			
Net income (loss)	$ 16,050	$ 11,001	$ (9,977)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Amortization of deferred financing costs and debt discount	50	79	69
Impairment expense	—	—	8,426
Depreciation and amortization	3,215	3,364	3,375
Pension and other postretirement benefits, net	172	(499)	220
Deferred income taxes	290	(169)	(241)
Net gain on disposal of assets	(1,061)	(21)	(70)
(Income) loss from equity method investments	(655)	(458)	935
Distributions from equity method investments	772	652	577
Income from discontinued operations	(72)	(8,448)	(1,205)
Changes in income tax receivable	(555)	2,089	(1,807)
Changes in the fair value of derivative instruments	(147)	16	45
Changes in:			
Current receivables	(2,315)	(5,299)	1,465
Inventories	(787)	(33)	1,750
Current accounts payable and accrued liabilities	1,909	6,260	(2,927)
Right of use assets and operating lease liabilities, net	—	3	(19)
All other, net	(547)	(153)	191
Cash provided by operating activities - continuing operations	16,319	8,384	807
Cash provided by (used in) operating activities - discontinued operations	42	(4,024)	1,612
Net cash provided by operating activities	16,361	4,360	2,419
Investing activities:			
Additions to property, plant and equipment	(2,420)	(1,464)	(2,787)
Acquisitions, net of cash acquired	(413)	—	—
Disposal of assets	90	153	150
Investments – acquisitions and contributions	(405)	(210)	(485)
– redemptions, repayments and return of capital	515	39	137
Purchases of short-term investments	(6,023)	(12,498)	—
Sales of short-term investments	1,296	1,544	—
Maturities of short-term investments	7,159	5,406	—
All other, net	824	513	63
Cash provided by (used in) investing activities - continuing operations	623	(6,517)	(2,922)
Cash provided by (used in) investing activities - discontinued operations	—	21,314	(335)
Net cash provided by (used in) investing activities	623	14,797	(3,257)
Financing activities:			
Commercial paper – issued	—	7,414	2,055
– repayments	—	(8,437)	(1,031)
Long-term debt – borrowings	3,379	12,150	17,082
– repayments	(2,280)	(17,400)	(15,380)
Debt issuance costs	(39)	—	(50)

(Millions of dollars)	2022	2021	2020
Issuance of common stock	243	106	11
Common stock repurchased	(11,922)	(4,654)	—
Dividends paid	(1,279)	(1,484)	(1,510)
Distributions to noncontrolling interests	(1,214)	(1,449)	(1,244)
Repurchases of noncontrolling interests	(491)	(630)	(33)
All other, net	(44)	(35)	(35)
Net cash used in financing activities	(13,647)	(14,419)	(135)
Net change in cash, cash equivalents and restricted cash	$ 3,337	$ 4,738	$ (973)
Cash, cash equivalents and restricted cash balances:[(a)]			
Continuing operations - beginning of year	5,294	416	1,395
Discontinued operations - beginning of year	—	140	134
Less: Discontinued operations - end of year	—	—	140
Continuing operations - end of year	$ 8,631	$ 5,294	$ 416

(a) Restricted cash is included in other current assets on our consolidated balance sheets.

The accompanying notes are an integral part of these consolidated financial statements.

Marathon Petroleum Corporation

Consolidated Statements of Equity and Redeemable Noncontrolling Interest

(Shares in millions; amounts in millions of dollars)	MPC Stockholders' Equity									
	Common Stock		Treasury Stock							
	Shares	Amount	Shares	Amount	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non-controlling Interests	Total Equity	Redeemable Non-controlling Interest
Balance as of December 31, 2019	978	$ 10	(329)	$ (15,143)	$ 33,157	$ 15,990	$ (320)	$ 8,445	$ 42,139	$ 968
Net income (loss)	—	—	—	—	—	(9,826)	—	(232)	(10,058)	81
Dividends declared on common stock ($2.32 per share)	—	—	—	—	—	(1,514)	—	—	(1,514)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,163)	(1,163)	(81)
Other comprehensive loss	—	—	—	—	—	—	(192)	—	(192)	—
Share-based compensation	2	—	—	(14)	92	—	—	8	86	—
Equity transactions of MPLX	—	—	—	—	(41)	—	—	(5)	(46)	—
Balance as of December 31, 2020	980	$ 10	(329)	$ (15,157)	$ 33,208	$ 4,650	$ (512)	$ 7,053	$ 29,252	$ 968
Net income	—	—	—	—	—	9,738	—	1,163	10,901	100
Dividends declared on common stock ($2.32 per share)	—	—	—	—	—	(1,483)	—	—	(1,483)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,349)	(1,349)	(100)
Other comprehensive income	—	—	—	—	—	—	445	—	445	—
Shares repurchased	—	—	(76)	(4,740)	—	—	—	—	(4,740)	—
Share-based compensation	4	—	—	(7)	147	—	—	4	144	—
Equity transactions of MPLX	—	—	—	—	(93)	—	—	(461)	(554)	(3)
Balance as of December 31, 2021	984	$ 10	(405)	$ (19,904)	$ 33,262	$ 12,905	$ (67)	$ 6,410	$ 32,616	$ 965
Net income	—	—	—	—	—	14,516	—	1,446	15,962	88
Dividends declared on common stock ($2.49 per share)	—	—	—	—	—	(1,279)	—	—	(1,279)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,129)	(1,129)	(85)
Other comprehensive income	—	—	—	—	—	—	69	—	69	—
Shares repurchased	—	—	(131)	(11,933)	—	—	—	—	(11,933)	—
Share-based compensation	6	—	—	(4)	260	—	—	4	260	—
Equity transactions of MPLX	—	—	—	—	(120)	—	—	(327)	(447)	—
Balance as of December 31, 2022	990	$ 10	(536)	$ (31,841)	$ 33,402	$ 26,142	$ 2	$ 6,404	$ 34,119	$ 968

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Consolidated Financial Statements

1. Description of the Business and Basis of Presentation

Description of the Business

We are a leading, integrated, downstream energy company headquartered in Findlay, Ohio. We operate the nation's largest refining system. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market and to independent entrepreneurs who operate branded outlets. We also sell transportation fuel to consumers through direct dealer locations under long-term supply contracts. MPC's midstream operations are primarily conducted through MPLX LP ("MPLX"), which owns and operates crude oil and light product transportation and logistics infrastructure as well as gathering, processing and fractionation assets. We own the general partner and a majority limited partner interest in MPLX.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven, Inc. ("7-Eleven"). Speedway's results are reported separately as discontinued operations, net of tax, in our consolidated statements of income for all periods presented. In addition, we separately disclosed the operating and investing cash flows of Speedway as discontinued operations within our consolidated statements of cash flow. See Note 5 for discontinued operations disclosures.

Refer to Notes 6 and 12 for additional information about our operations.

Basis of Presentation

All significant intercompany transactions and accounts have been eliminated.

In accordance with ASC 205, *Discontinued Operations*, intersegment sales from our Refining & Marketing segment to Speedway are no longer eliminated as intercompany transactions and are now presented within sales and other operating revenues, since we continue to supply fuel to Speedway subsequent to the sale to 7-Eleven. All periods presented have been retrospectively adjusted through the sale date of May 14, 2021 to reflect this change. Additionally, from August 2, 2020 through May 14, 2021, in accordance with ASC 360, *Property, Plant, and Equipment*, we ceased recording depreciation and amortization for Speedway's PP&E, finite-lived intangible assets and right of use lease assets.

2. Summary of Principal Accounting Policies

Principles Applied in Consolidation

These consolidated financial statements include the accounts of our majority-owned, controlled subsidiaries and MPLX. As of December 31, 2022, we owned the general partner and approximately 65 percent of the outstanding MPLX common units. Due to our ownership of the general partner interest, we have determined that we control MPLX and therefore we consolidate MPLX and record a noncontrolling interest for the interest owned by the public. Changes in ownership interest in consolidated subsidiaries that do not result in a change in control are recorded as equity transactions.

Investments in entities over which we have significant influence, but not control, are accounted for using the equity method of accounting. This includes entities in which we hold majority ownership but the minority shareholders have substantive participating rights. Income from equity method investments represents our proportionate share of net income generated by the equity method investees.

Differences in the basis of the investments and the separate net asset values of the investees, if any, are amortized into net income over the remaining useful lives of the underlying assets and liabilities, except for any excess related to goodwill. Equity method investments are evaluated for impairment whenever changes in the facts and circumstances indicate an other than temporary loss in value has occurred. When the loss is deemed to be other than temporary, the carrying value of the equity method investment is written down to fair value.

Use of Estimates

The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods. Actual results could differ from those estimates.

Revenue Recognition

We recognize revenue based on consideration specified in contracts or agreements with customers when we satisfy our performance obligations by transferring control over products or services to a customer. We made an accounting policy election that all taxes assessed by a governmental authority that are both imposed on and concurrent with a revenue-producing transaction and collected from our customers will be recognized on a net basis within sales and other operating revenues.

Our revenue recognition patterns are described below by reportable segment:

- Refining & Marketing - The vast majority of our Refining & Marketing contracts contain pricing that is based on the market price for the product at the time of delivery. Our obligations to deliver product volumes are typically satisfied and revenue is recognized when control of the product transfers to our customers. Concurrent with the transfer of control, we typically receive the right to payment for the delivered product, the customer accepts the product and the customer has significant risks and rewards of ownership of the product. Payment terms require customers to pay shortly after delivery and do not contain significant financing components.
- Midstream - Midstream revenue transactions typically are defined by contracts under which we sell a product or provide a service. Revenues from sales of product are recognized when control of the product transfers to the customer. Revenues from services are recognized over time when the performance obligation is satisfied as services are provided in a series. We have elected to use the output measure of progress to recognize revenue based on the units delivered, processed or transported. The transaction prices in our Midstream contracts often have both fixed components, related to minimum volume commitments, and variable components, which are primarily dependent on volumes. Variable consideration will generally not be estimated at contract inception as the transaction price is specifically allocable to the services provided at each period end.

Refer to Note 23 for disclosure of our revenue disaggregated by segment and product line and to Note 12 for a description of our reportable segment operations.

Crude Oil and Refined Product Exchanges and Matching Buy/Sell Transactions

We enter into exchange contracts and matching buy/sell arrangements whereby we agree to deliver a particular quantity and quality of crude oil or refined products at a specified location and date to a particular counterparty and to receive from the same counterparty the same commodity at a specified location on the same or another specified date. The exchange receipts and deliveries are nonmonetary transactions, with the exception of associated grade or location differentials that are settled in cash. The matching buy/sell purchase and sale transactions are settled in cash. No revenues are recorded for exchange and matching buy/sell transactions as they are accounted for as exchanges of inventory. The exchange transactions are recognized at the carrying amount of the inventory transferred.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and on deposit and investments in highly liquid debt instruments with maturities of three months or less.

Short-Term Investments

Investments with a maturity date greater than three months that we intend to convert to cash or cash equivalents within a year or less are classified as short-term investments in our consolidated balance sheets. Additionally, in accordance with ASC 320, *Investments - Debt Securities*, we have classified all short-term investments as available-for-sale securities and changes in fair market value are reported in other comprehensive income.

Accounts Receivable and Allowance for Doubtful Accounts

Our receivables primarily consist of customer accounts receivable. Customer receivables are recorded at the invoiced amounts and generally do not bear interest. Allowances for doubtful accounts are generally recorded when it becomes probable the receivable will not be collected and are booked to bad debt expense. The allowance for doubtful accounts is the best estimate of the amount of probable credit losses in customer accounts receivable. We review the allowance quarterly and past-due balances over 150 days are reviewed individually for collectability.

We mitigate credit risk with master netting agreements with companies engaged in the crude oil or refinery feedstock trading and supply business or the petroleum refining industry. A master netting agreement generally provides for a once per month net cash settlement of the accounts receivable from and the accounts payable to a particular counterparty.

Leases

Contracts with a term greater than one year that convey the right to direct the use of and obtain substantially all of the economic benefit of an asset are accounted for as right of use assets.

Right of use asset and lease liability balances are recorded at the commencement date at present value of the fixed lease payments using a secured incremental borrowing rate with a maturity similar to the lease term because our leases do not provide implicit rates. We have elected to include both lease and non-lease components in the present value of the lease payments for all lessee asset classes with the exception of our marine and third-party contractor service equipment leases. The lease component of the payment for the marine and equipment asset classes is determined using a relative standalone selling price. See Note 28 for additional disclosures about our lease contracts.

As a lessor under ASU No. 2016-02, *Leases* (“ASC 842”), MPLX may be required to re-classify existing operating leases to sales-type leases upon modification and related reassessment of the leases. See Note 28 for further information regarding our ongoing evaluation of the impacts of lease reassessments as modifications occur. The net investment in sales-type leases is recorded within receivables, net and other noncurrent assets on the consolidated balance sheets. These amounts are comprised of the present value of the sum of the future minimum lease payments representing the value of the lease receivable and the unguaranteed residual value of the lease assets. Management assesses the net investment in sales-type leases for recoverability quarterly.

Inventories

Inventories are carried at the lower of cost or market value. Cost of inventories is determined primarily under the LIFO method. Costs for crude oil and refined product inventories are aggregated on a consolidated basis for purposes of assessing if the LIFO cost basis of these inventories may have to be written down to market value.

Fair Value

We account for certain assets and liabilities at fair value. The hierarchy below lists three levels of fair value based on the extent to which inputs used in measuring fair value are observable in the market. We categorize each of our fair value measurements in one of these three levels based on the lowest level input that is significant to the fair value measurement in its entirety. These levels are:

- Level 1 – inputs are based upon unadjusted quoted prices for identical instruments in active markets. Our Level 1 derivative assets and liabilities include exchange-traded contracts for crude oil and refined products measured at fair value with a market approach using the close-of-day settlement prices for the market. Commodity derivatives are covered under master netting agreements with an unconditional right to offset. Collateral deposits in futures commission merchant accounts covered by master netting agreements related to Level 1 commodity derivatives are classified as Level 1.
- Level 2 – inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, credit spreads, and forward and spot prices for currencies. Our Level 2 investments include commercial paper, certificates of deposit, time deposits and corporate notes and bonds. Our Level 2 derivative assets and liabilities primarily include certain OTC contracts.
- Level 3 – inputs are generally unobservable and typically reflect management’s estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques, including option pricing models and discounted cash flow models. Our Level 3 assets and liabilities include goodwill, long-lived assets and intangible assets, when they are recorded at fair value due to an impairment charge and an embedded derivative liability relates to a natural gas purchase agreement embedded in a keep-whole processing agreement. Unobservable inputs used in the models are significant to the fair values of the assets and liabilities.

Derivative Instruments

We use derivatives to economically hedge a portion of our exposure to commodity price risk and, historically, to interest rate risk. Our use of selective derivative instruments that assume market risk is limited. All derivative instruments (including derivative instruments embedded in other contracts) are recorded at fair value. Certain commodity derivatives are reflected on the consolidated balance sheets on a net basis by counterparty as they are governed by master netting agreements. Cash flows related to derivatives used to hedge commodity price risk and interest rate risk are classified in operating activities with the underlying transactions.

Derivatives not designated as accounting hedges

Derivatives that are not designated as accounting hedges may include commodity derivatives used to hedge price risk on (1) inventories, (2) fixed price sales of refined products, (3) the acquisition of foreign-sourced crude oil, (4) the acquisition of ethanol for blending with refined products, (5) the sale of NGLs, (6) the purchase of natural gas and (7) the purchase of soybean oil. Changes in the fair value of derivatives not designated as accounting hedges are recognized immediately in net income.

Concentrations of credit risk

All of our financial instruments, including derivatives, involve elements of credit and market risk. The most significant portion of our credit risk relates to nonperformance by counterparties. The counterparties to our financial instruments consist primarily of major financial institutions and companies within the energy industry. To manage counterparty risk associated with financial instruments, we select and monitor counterparties based on an assessment of their financial strength and on credit ratings, if available. Additionally, we limit the level of exposure with any single counterparty.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and depreciated on a straight-line basis over the estimated useful lives of the assets, generally 10 to 40 years for refining and midstream assets, 25 years for office buildings and 4 to 7 years for other miscellaneous fixed assets. Such assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. If the sum of the expected undiscounted future cash flows from the use of the asset group and its eventual disposition is less than the carrying amount of the asset group, an impairment assessment is performed and the excess of the book value over the fair value of the asset group is recorded as an impairment loss.

When items of property, plant and equipment are sold or otherwise disposed of, any gains or losses are reported in net income. Gains on the disposal of property, plant and equipment are recognized when earned, which is generally at the time of closing. If a loss on disposal is expected, such losses are recognized when the assets are classified as held for sale.

Interest expense is capitalized for qualifying assets under construction. Capitalized interest costs are included in property, plant and equipment and are depreciated over the useful life of the related asset.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of the net assets acquired in the acquisition of a business. Goodwill is not amortized, but rather is tested for impairment at the reporting unit level annually and when events or changes in circumstances indicate that the fair value of a reporting unit with goodwill has been reduced below carrying value. If we determine, based on a qualitative assessment, that it is not more likely than not that a reporting unit's fair value is less than its carrying amount, no further impairment testing is required. If we do not perform a qualitative assessment or if that assessment indicates that further impairment testing is required, the fair value of each reporting unit is determined using an income and/or market approach which is compared to the carrying value of the reporting unit. If the carrying amount of the reporting unit exceeds its fair value, an impairment loss would be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. The fair value under the income approach is calculated using the expected present value of future cash flows method. Significant assumptions used in the cash flow forecasts include future volumes, discount rates, and future capital requirements.

Amortization of intangibles with definite lives is calculated using the straight-line method, which is reflective of the benefit pattern in which the estimated economic benefit is expected to be received over the estimated useful life of the intangible asset. Intangibles subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the intangible may not be recoverable. If the sum of the expected undiscounted future cash flows related to the asset is less than the carrying amount of the asset, an impairment loss is recognized based on the fair value of the asset. Intangibles not subject to amortization are tested for impairment annually and when circumstances indicate that the fair value is less than the carrying amount of the intangible. If the fair value is less than the carrying value, an impairment is recorded for the difference.

Major Maintenance Activities

Costs for planned turnaround and other major maintenance activities are expensed in the period incurred. These types of costs include contractor repair services, materials and supplies, equipment rentals and our labor costs.

Environmental Costs

Environmental expenditures for additional equipment that mitigates or prevents future contamination or improves environmental safety or efficiency of the existing assets are capitalized. We recognize remediation costs and penalties when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. The timing of remediation accruals coincides with completion of a feasibility study or the commitment to a formal plan of action. Remediation liabilities are accrued based on estimates of known environmental exposure and are discounted when the estimated amounts are reasonably fixed and determinable. If recoveries of remediation costs from third parties are probable, a receivable is recorded and is discounted when the estimated amount is reasonably fixed and determinable.

Asset Retirement Obligations

The fair value of asset retirement obligations is recognized in the period in which the obligations are incurred if a reasonable estimate of fair value can be made. The majority of our recognized asset retirement liability relates to conditional asset retirement obligations for removal and disposal of fire-retardant material from certain refining facilities. The remaining recognized asset retirement liability relates to other refining assets, certain pipelines and processing facilities and other related pipeline assets. The fair values recorded for such obligations are based on the most probable current cost projections.

Asset retirement obligations have not been recognized for some assets because the fair value cannot be reasonably estimated since the settlement dates of the obligations are indeterminate. Such obligations will be recognized in the period when sufficient information becomes available to estimate a range of potential settlement dates. The asset retirement obligations principally include the hazardous material disposal and removal or dismantlement requirements associated with the closure of certain refining, terminal, pipeline and processing assets.

Our practice is to keep our assets in good operating condition through routine repair and maintenance of component parts in the ordinary course of business and by continuing to make improvements based on technological advances. As a result, we believe that generally these assets have no expected settlement date for purposes of estimating asset retirement obligations since the dates or ranges of dates upon which we would retire these assets cannot be reasonably estimated at this time.

Income Taxes

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their tax bases. Deferred tax assets are recorded when it is more likely than not that they will be realized. The realization of deferred tax assets is assessed periodically based on several factors, primarily our expectation to generate sufficient future taxable income.

Share-Based Compensation Arrangements

The fair value of stock options granted to our employees is estimated on the date of grant using the Black-Scholes option pricing model. The model employs various assumptions based on management’s estimates at the time of grant, which impact the calculation of fair value and ultimately, the amount of expense that is recognized over the vesting period of the stock option award. Of the required assumptions, the expected life of the stock option award and the expected volatility of our stock price have the most significant impact on the fair value calculation. The average expected life is based on our historical employee exercise behavior. The assumption for expected volatility of our stock price reflects a weighting of 50 percent of our common stock implied volatility and 50 percent of our common stock historical volatility.

The fair value of restricted stock awards granted to our employees is determined based on the fair market value of our common stock on the date of grant. The fair value of performance unit awards granted to our employees is estimated on the date of grant using a Monte Carlo valuation model.

Our share-based compensation expense is recognized based on management’s estimate of the awards that are expected to vest, using the straight-line attribution method for all service-based awards with a graded vesting feature. If actual forfeiture results are different than expected, adjustments to recognized compensation expense may be required in future periods. Unearned share-based compensation is charged to equity when restricted stock awards are granted. Compensation expense is recognized over the vesting period and is adjusted if conditions of the restricted stock award are not met.

Business Combinations

We recognize and measure the assets acquired and liabilities assumed in a business combination based on their estimated fair values at the acquisition date. Any excess or deficiency of the purchase consideration when compared to the fair value of the net tangible assets acquired, if any, is recorded as goodwill or gain from a bargain purchase. For material acquisitions, management engages an independent valuation specialist to assist with the determination of fair value of the assets acquired, liabilities assumed, noncontrolling interest, if any, and goodwill, based on recognized business valuation methodologies. An income, market or cost valuation method may be utilized to estimate the fair value of the assets acquired, liabilities assumed, and noncontrolling interest, if any, in a business combination. The income valuation method represents the present value of future cash flows over the life of the asset using: (i) discrete financial forecasts, which rely on management’s estimates of revenue and operating expenses; (ii) long-term growth rates; and (iii) appropriate discount rates. The market valuation method uses prices paid for a reasonably similar asset by other purchasers in the market, with adjustments relating to any differences between the assets. The cost valuation method is based on the replacement cost of a comparable asset at prices at the time of the acquisition reduced for depreciation of the asset. If the initial accounting for the business combination is incomplete by the end of the reporting period in which the acquisition occurs, an estimate will be recorded. Subsequent to the acquisition date, and not later than one year from the acquisition date, we will record any material adjustments to the initial estimate based on new information obtained that would have existed as of the date of the acquisition. Any adjustment that arises from information obtained that did not exist as of the date of the acquisition will be recorded in the period of the adjustment. Acquisition-related costs are expensed as incurred in connection with each business combination.

Environmental Credits and Obligations

In order to comply with certain regulations, specifically the RFS2 requirements implemented by the EPA and the cap-and-trade emission reduction program and low carbon fuel standard implemented by state programs, we are required to reduce our emissions, blend certain levels of biofuels or obtain allowances or credits to offset the obligations created by our operations. In regard to each program, we record an asset, included in other current assets or other noncurrent assets on the consolidated balance sheets, for allowances or credits owned in excess of our anticipated current period compliance requirements. The asset value is based on the product of the excess allowances or credits as of the balance sheet date, if any, and the weighted average cost of those allowances or credits. We record a liability, included in other current liabilities or deferred credits and other liabilities on the consolidated balance sheets, when we are deficient allowances or credits based on the product of the deficient amount as of the balance sheet date, if any, and the market price of the allowances or credits at the balance sheet date. The cost of allowances or credits used for compliance is reflected in cost of revenues on the consolidated statements of income. Any gains or losses on the sale or expiration of allowances or credits are classified as other income on the consolidated statements of income. Proceeds from the sale of allowances or credits are reported in investing activities - all other, net on the consolidated statements of cash flow.

3. Accounting Standards

Recently Adopted

We adopted the following ASU during 2022, which did not have a material impact to our financial statements or financial statement disclosures:

ASU		Effective Date
2021-10	*Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance*	January 1, 2022

4. Short-Term Investments

Investments Components

The components of investments were as follows:

	December 31, 2022						
(Millions of dollars)	Fair Value Level	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Short-term Investments
Available-for-sale debt securities							
Commercial paper	Level 2	$ 3,074	$ —	$ (1)	$ 3,073	$ 1,106	$ 1,967
Certificates of deposit and time deposits	Level 2	2,093	—	—	2,093	1,500	593
U.S. government securities	Level 1	1,071	—	—	1,071	498	573
Corporate notes and bonds	Level 2	66	—	—	66	54	12
Total available-for-sale debt securities		$ 6,304	$ —	$ (1)	$ 6,303	$ 3,158	$ 3,145
Cash					5,467	5,467	—
Total					$ 11,770	$ 8,625	$ 3,145

	December 31, 2021						
(Millions of dollars)	Fair Value Level	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Short-term Investments
Available-for-sale debt securities							
Commercial paper	Level 2	$ 4,905	$ —	$ (1)	$ 4,904	$ 868	$ 4,036
Certificates of deposit and time deposits	Level 2	2,024	—	—	2,024	750	1,274
U.S. government securities	Level 1	28	—	—	28	—	28
Corporate notes and bonds	Level 2	271	—	—	271	61	210
Total available-for-sale debt securities		$ 7,228	$ —	$ (1)	$ 7,227	$ 1,679	$ 5,548
Cash					3,612	3,612	—
Total					$ 10,839	$ 5,291	$ 5,548

Our investment policy includes concentration limits and credit rating requirements which limits our investments to high quality, short term and highly liquid securities.

Unrealized losses on debt investments held from May 14, 2021, which coincides with the sale of Speedway, to December 31, 2022 were not material. Realized gains/losses were not material. All of our available-for-sale debt securities held as of December 31, 2022 mature within one year or less or are readily available for use.

5. Discontinued Operations

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven for cash proceeds of approximately $21.38 billion. After-tax proceeds were approximately $17.22 billion. This transaction resulted in a pretax gain of $11.68 billion ($8.02 billion after income taxes) after deducting the book value of the net assets and certain other adjustments.

The transaction provided for adjustments for working capital and other miscellaneous items, which were finalized with 7-Eleven in the fourth quarter of 2022, resulting in an additional pretax gain of $60 million.

Results of operations for Speedway are reflected through the close of the sale. The following table presents Speedway results and the gain on sale as reported in income from discontinued operations, net of tax, within our consolidated statements of income.

(Millions of dollars)	2022	2021	2020
Revenues, other income and net gain on disposal of assets:			
Revenues and other income	$ —	$ 8,420	$ 19,919
Net gain on disposal of assets	60	11,682	1
Total revenues, other income and net gain on disposal of assets	60	20,102	19,920
Costs and expenses:			
Cost of revenues (excludes items below)	—	7,654	17,573
Depreciation and amortization	—	3	244
Selling, general and administrative expenses	—	121	323
Other taxes	—	75	193
Total costs and expenses	—	7,853	18,333
Income from operations	60	12,249	1,587
Net interest and other financial costs	—	6	20
Income before income taxes	60	12,243	1,567
Provision (benefit) for income taxes	(12)	3,795	362
Income from discontinued operations, net of tax	$ 72	$ 8,448	$ 1,205

Fuel Supply Agreements

During the second quarter of 2021, we entered into various 15-year fuel supply agreements through which we continue to supply fuel to Speedway.

6. Master Limited Partnership

We own the general partner and a majority limited partner interest in MPLX, which owns and operates crude oil and light product transportation and logistics infrastructure as well as gathering, processing and fractionation assets. We control MPLX through our ownership of the general partner interest and, as of December 31, 2022, we owned approximately 65 percent of the outstanding MPLX common units.

Unit Repurchase Program

On November 2, 2020, MPLX announced the board authorization of a unit repurchase program for the repurchase of up to $1.0 billion of MPLX's outstanding common units held by the public, which was exhausted during the fourth quarter of 2022. On August 2, 2022, MPLX announced its board of directors approved an incremental $1.0 billion unit repurchase authorization. The unit repurchase authorizations have no expiration date. MPLX may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated unit repurchases, tender offers or open market solicitations for units, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be discontinued at any time.

Total unit repurchases were as follows for the respective periods:

(In millions, except per share data)	2022	2021	2020
Number of common units repurchased	15	23	1
Cash paid for common units repurchased	$ 491	$ 630	$ 33
Average cost per unit	$ 31.96	$ 27.52	$ 22.29

As of December 31, 2022, MPLX had approximately $846 million remaining under its unit repurchase authorizations.

Redemption of Business from MPLX

On July 31, 2020, Western Refining Southwest, Inc. (now known as Western Refining Southwest LLC) ("WRSW"), a wholly owned subsidiary of MPC, entered into a Redemption Agreement (the "Redemption Agreement") with MPLX, pursuant to which

MPLX transferred to WRSW all of the outstanding membership interests in Western Refining Wholesale, LLC, ("WRW") in exchange for the redemption of MPLX common units held by WRSW. The transaction effected the transfer to MPC of the Western wholesale distribution business that MPLX acquired as a result of its acquisition of Andeavor Logistics LP ("ANDX"). Beginning in the third quarter of 2020, the results of these operations are presented in MPC's Refining & Marketing segment.

At the closing, per the terms of Redemption Agreement, MPLX redeemed 18,582,088 MPLX common units (the "Redeemed Units") held by WRSW. The number of Redeemed Units was calculated by dividing WRW's aggregate valuation of $340 million by the simple average of the volume weighted average NYSE prices of an MPLX common unit for the ten trading days ending at market close on July 27, 2020. The transaction resulted in a minor decrease in MPC's ownership interest in MPLX.

Series B Preferred Units

As of December 31, 2022, MPLX had 600,000 preferred units ("Series B preferred units) representing limited partner interests of MPLX and having a liquidation value of $1,000 per unit. On February 15, 2023, MPLX exercised its right to redeem all of the Series B preferred units at the redemption price of $1,000 per unit.

The Series B preferred units are included in noncontrolling interests on our consolidated balance sheets.

Agreements

We have various long-term, fee-based commercial agreements with MPLX. Under these agreements, MPLX provides transportation, storage, distribution and marketing services to us. With certain exceptions, these agreements generally contain minimum volume commitments. These transactions are eliminated in consolidation but are reflected as intersegment transactions between our Refining & Marketing and Midstream segments. We also have agreements with MPLX that establish fees for operational and management services provided between us and MPLX and for executive management services and certain general and administrative services provided by us to MPLX. These transactions are eliminated in consolidation but are reflected as intersegment transactions between our Corporate and Midstream segments.

Noncontrolling Interest

As a result of equity transactions of MPLX, we are required to adjust non-controlling interest and additional paid-in capital. Changes in MPC's additional paid-in capital resulting from changes in its ownership interest in MPLX were as follows:

(Millions of dollars)	2022	2021	2020
Decrease due to change in ownership	$ (164)	$ (166)	$ (27)
Tax impact	44	73	(14)
Decrease in MPC's additional paid-in capital, net of tax	$ (120)	$ (93)	$ (41)

7. Impairments

During 2021, we recognized $69 million of impairment expense within our Midstream segment related to the divestiture, abandonment or closure of certain assets as detailed in the table below.

During the first quarter of 2020, the outbreak of COVID-19 caused overall deterioration in the economy and the environment in which we operate. The related changes to our expected future cash flows, as well as a sustained decrease in share price, were considered triggering events requiring the performance of various tests of the carrying values of our assets. Triggering events requiring the performance of various tests of the carrying value of our Midstream assets were also identified by MPLX as a result of the overall deterioration in the economy and the environment in which MPLX and its customers operate, which led to a reduction in forecasted volumes processed by the systems operated by MarkWest Utica EMG, L.L.C., MPLX's equity method investee, as well as a sustained decrease in the MPLX unit price. These tests resulted in the majority of the impairment charges in 2020, as discussed below.

The table below provides information related to the impairments recognized, along with the location of these impairments within the consolidated statements of income.

(Millions of dollars)	Income Statement Line	2022	2021	2020
Goodwill	Impairment expense	$ —	$ —	$ 7,394
Equity method investments	Income (loss) from equity method investments	—	13	1,315
Long-lived assets	Impairment expense[(a)]	—	—	1,032
Long-lived assets	Depreciation and amortization	—	56	—
Total impairments		$ —	$ 69	$ 9,741

(a) The amount of 2020 impairment expense not described in the narrative below is related to certain immaterial Midstream assets.

Goodwill

During the first quarter of 2020, we recorded an impairment of goodwill of $7.33 billion. The goodwill impairment within the Refining & Marketing segment was primarily driven by the effects of the COVID-19 pandemic and the decline in commodity prices. The impairment within the Midstream segment was primarily driven by additional information related to the slowing of drilling activity, which reduced production growth forecasts from MPLX's producer customers.

During the third quarter of 2020, we recorded an impairment of goodwill of $64 million. The $64 million of goodwill was transferred from our Midstream segment to our Refining & Marketing segment during the third quarter of 2020 in connection with the transfer to MPC of the MPLX wholesale distribution business as described in Note 6. The transfer required goodwill impairment tests for the transferor and transferee reporting units. Our Refining & Marketing reporting unit that recorded the $64 million impairment expense has no remaining goodwill.

The fair values of the reporting units for the first quarter of 2020 goodwill impairment analysis were determined based on applying both a discounted cash flow method, or income approach, as well as a market approach. The discounted cash flow fair value estimate is based on known or knowable information at the measurement date. The significant assumptions that were used to develop the estimates of the fair values under the discounted cash flow method included management's best estimates of the expected future results and discount rates, which range from 9.0 percent to 13.5 percent across all reporting units. Significant assumptions that were used to estimate the MPLX Eastern Gathering and Processing and MPLX Crude Gathering reporting units' fair values under the discounted cash flow method included management's best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customer's development plans, which impact future volumes and capital requirements. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the interim goodwill impairment test will prove to be an accurate prediction of the future. The fair value measurements for the individual reporting units' overall fair values represent Level 3 measurements.

Equity Method Investments

During the first quarter of 2020, we recorded equity method investment impairment charges totaling $1.32 billion, of which $1.25 billion related to MarkWest Utica EMG, L.L.C. and its investment in Ohio Gathering Company, L.L.C. The impairments were largely due to a reduction in forecasted volumes gathered and processed by the systems operated by the equity method investments. The fair value of the investments were determined based upon applying a discounted cash flow method, an income approach. The discounted cash flow fair value estimate is based on known or knowable information at the interim measurement date. The significant assumptions that were used to develop the estimate of the fair value under the discounted cash flow method include management's best estimates of the expected future cash flows, including prices and volumes, the weighted average cost of capital and the long-term growth rate. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment test will prove to be an accurate prediction of the future. The fair value of these equity method investments represents a Level 3 measurement.

Long-lived Assets

Long-lived assets (primarily consisting of property, plant and equipment, intangible assets other than goodwill, and right of use assets) used in operations are assessed for impairment whenever changes in facts and circumstances indicate that the carrying value of the assets may not be recoverable based on the expected undiscounted future cash flow of an asset group. For purposes of impairment evaluation, long-lived assets must be grouped at the lowest level for which independent cash flows can be identified, which generally is the refinery and associated distribution system level for Refining & Marketing segment assets and the plant level or pipeline system level for Midstream segment assets. If the sum of the undiscounted estimated pretax cash flows is less than the carrying value of an asset group, fair value is determined, and the carrying value is written down to the determined fair value.

During the first quarter of 2020, we identified long-lived asset impairment triggers relating to all of our refinery asset groups within the Refining & Marketing segment as a result of decreases to the Refining & Marketing segment expected future cash flows. The cash flows associated with these assets were significantly impacted by the effects of the COVID-19 pandemic and commodity price declines. We performed recoverability tests for each refinery asset group by comparing the undiscounted estimated pretax cash flows to the carrying value of each asset group. Only the Gallup refinery's carrying value exceeded its undiscounted estimated pretax cash flows. It was determined that the fair value of the Gallup refinery's property, plant and equipment was less than the carrying value. As a result, we recorded a charge of $142 million in the first quarter of 2020 to impairment expense on the consolidated statements of income. The fair value measurements for the Gallup refinery assets represent Level 3 measurements.

During the second quarter of 2020, we identified long-lived asset impairment triggers relating to all of our refinery asset groups within the Refining & Marketing segment, except the Gallup refinery as it had been impaired to its estimated salvage value in the first quarter, as a result of continued unfavorable macroeconomic conditions impacting the Refining & Marketing segment expected future cash flows. We performed recoverability tests for each refinery asset group by comparing the undiscounted estimated pretax cash flows to the carrying value of each asset group. All of these refinery asset groups' undiscounted estimated pretax cash flows exceeded their carrying value by at least 17 percent.

The determination of undiscounted estimated pretax cash flows for the first and second quarter refinery asset group recoverability tests utilized significant assumptions including management's best estimates of the expected future cash flows, allocation of certain Refining & Marketing segment cash flows to the individual refinery asset groups, the estimated useful life of certain refinery asset groups, and the estimated salvage value of certain refinery asset groups.

On August 3, 2020, we announced our plans to evaluate possibilities to strategically reposition our Martinez refinery, including the potential conversion of the refinery into a renewable diesel facility. The facility is expected to ramp up to producing 730 million gallons per year by the end of 2023, with pretreatment capabilities coming online in 2023. As a result of the progression of these activities, we identified assets that would be repurposed and utilized in a renewable diesel facility configuration and assets that would be abandoned since they had no function in a renewable diesel facility configuration. This change in our intended use for the Martinez refinery is a long-lived asset impairment trigger for the assets that would be repurposed and remain as part of the Martinez asset group. We assessed the asset group for impairment by comparing the undiscounted estimated pretax cash flows to the carrying value of the asset group and the undiscounted estimated pretax cash flows exceeded the Martinez asset group carrying value. We recorded impairment expense of $342 million for the abandoned assets as we are no longer using these assets and have no expectation to use these assets in the future. Additionally, as a result of our efforts to progress the conversion of Martinez refinery into a renewable diesel facility, MPLX cancelled in-process capital projects related to its Martinez refinery logistics operations resulting in impairments of $27 million in the third quarter of 2020.

In the fourth quarter of 2020, we concluded the evaluation of our intended use of MPLX terminal assets near the Gallup refinery and determined that the assets were abandoned, resulting in an impairment charge of $67 million. Following this conclusion, we revised the estimate of the salvage value for the Gallup refinery asset group resulting in an additional $44 million impairment charge. These charges are included in impairment expense on our consolidated statements of income.

The determinations of expected future cash flows and the salvage values of refineries, as described earlier, require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of our impairment analysis will prove to be an accurate prediction of the future. Should our assumptions significantly change in future periods, it is possible we may determine the carrying values of certain of our refinery asset groups exceed the undiscounted estimated pretax cash flows of their refinery asset groups, which would result in future impairment charges.

During the first quarter of 2020, MPLX identified an impairment trigger relating to asset groups within MPLX's Western Gathering and Processing ("G&P") reporting unit as a result of significant changes to expected future cash flows for these asset groups resulting from the effects of the COVID-19 pandemic. The cash flows associated with these assets were significantly impacted by volume declines reflecting decreased forecasted producer customer production as a result of lower commodity prices. MPLX assessed each asset group within the Western G&P reporting unit for impairment. It was determined that the fair value of the East Texas G&P asset group's underlying assets were less than the carrying value. As a result, MPLX recorded impairment charges totaling $350 million related to its property, plant and equipment and intangibles, which are included in impairment expense on our consolidated statements of income. Fair value of property, plant and equipment was determined using a combination of an income and cost approach. The income approach utilized significant assumptions including management's best estimates of the expected future cash flows and the estimated useful life of the asset group. The cost approach utilized assumptions for the current replacement costs of similar assets adjusted for estimated depreciation and deterioration of the existing equipment and economic obsolescence. The fair value of the intangibles was determined based on applying the multi-period excess earnings method, which is an income approach. Key assumptions included management's best estimates of the expected future cash flows from existing customers, customer attrition rates and the discount rate. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment analysis will prove to be an accurate prediction of the future. The fair value measurements for the asset group fair values represent Level 3 measurements.

8. Variable Interest Entities

Consolidated VIE

We control MPLX through our ownership of its general partner. MPLX is a VIE because the limited partners do not have substantive kick-out or participating rights over the general partner. We are the primary beneficiary of MPLX because in addition to our significant economic interest, we also have the ability, through our ownership of the general partner, to control the decisions that most significantly impact MPLX. We therefore consolidate MPLX and record a noncontrolling interest for the interest owned by the public. We also record a redeemable noncontrolling interest related to MPLX's Series A preferred units.

The creditors of MPLX do not have recourse to MPC's general credit through guarantees or other financial arrangements, except as noted. MPC has effectively guaranteed certain indebtedness of LOOP LLC ("LOOP") and LOCAP LLC ("LOCAP"), in which MPLX holds an interest. See Note 29 for more information. The assets of MPLX can only be used to settle its own obligations and its creditors have no recourse to our assets, except as noted earlier.

The following table presents balance sheet information for the assets and liabilities of MPLX, which are included in our consolidated balance sheets.

(Millions of dollars)	December 31, 2022	December 31, 2021
Assets		
Cash and cash equivalents	$ 238	$ 13
Receivables, less allowance for doubtful accounts	747	660
Inventories	148	142
Other current assets	56	55
Equity method investments	4,095	3,981
Property, plant and equipment, net	18,848	20,042
Goodwill	7,645	7,657
Right of use assets	283	268
Other noncurrent assets	1,664	891
Liabilities		
Accounts payable	$ 664	$ 671
Payroll and benefits payable	4	6
Accrued taxes	67	75
Debt due within one year	988	499
Operating lease liabilities	46	59
Other current liabilities	338	304
Long-term debt	18,808	18,072
Deferred income taxes	13	10
Long-term operating lease liabilities	230	205
Deferred credits and other liabilities	366	559

Non-Consolidated VIEs

Martinez Renewables LLC

On September 21, 2022, MPC closed on the formation of the Martinez Renewable Fuels joint venture (the “Martinez Renewable joint venture”) with Neste Corporation (“Neste”). We determined that, as of the closing date, Martinez Renewables LLC is a VIE because the entity does not have sufficient equity to complete the modification of the plant to produce renewable fuels without additional financial support from its owners. We are not the primary beneficiary of this VIE because we do not have the ability to control the activities that significantly influence the economic outcomes of the entity and, therefore, do not consolidate the entity.

Capline LLC

Capline LLC is unable to fund its operations without financial support from its equity owners and is a VIE. Our maximum exposure to loss as a result of our involvement with Capline LLC includes our equity method investment, any additional capital contribution commitments and any operating expenses incurred by Capline LLC in excess of compensation received for performance of the operating services. We are not the primary beneficiary of this VIE because we do not have the ability to control the activities that significantly influence the economic outcomes of the entity and, therefore, do not consolidate the entity.

Crowley Coastal Partners

We have determined that Crowley Coastal Partners LLC (“Crowley Coastal Partners”) is a VIE based on the terms of the existing financing arrangement for Crowley Blue Water Partners LLC (“Crowley Blue Water Partners”) and the associated debt guarantee by MPC and Crowley Maritime Corporation. Our maximum exposure to loss includes our equity method investment in Crowley Coastal Partners and the debt guarantees provided to each of the lenders to Crowley Blue Water Partners. We are not the primary beneficiary of this VIE because we do not have the ability to control the activities that significantly influence the economic outcomes of the entity and, therefore, do not consolidate the entity.

MPLX VIEs

For those entities that have been deemed to be VIEs, neither MPLX nor any of its subsidiaries have been deemed to be the primary beneficiary due to voting rights on significant matters. While we have the ability to exercise influence through participation in the management committees which make all significant decisions, we have equal influence over each committee as a joint interest partner and all significant decisions require the consent of the other investors without regard to economic interest and as such we have determined that these entities should not be consolidated and apply the equity method of accounting with respect to our investments in each entity.

Sherwood Midstream LLC (“Sherwood Midstream”) has been deemed the primary beneficiary of Sherwood Midstream Holdings LLC (“Sherwood Midstream Holdings”) due to its controlling financial interest through its authority to manage the joint venture. As a result, Sherwood Midstream consolidates Sherwood Midstream Holdings.

MPLX’s maximum exposure to loss as a result of its involvement with equity method investments includes its equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of its compensation received for the performance of the operating services.

We account for our ownership interest in each of these investments as an equity method investment. See Note 16 for ownership percentages and investment balances and Note 29 for our exposure to guarantees related to our non-consolidated VIEs.

9. Related Party Transactions

Transactions with related parties were as follows:

(Millions of dollars)	2022	2021	2020
Sales to related parties	$ 144	$ 93	$ 123
Purchases from related parties	1,175	962	738

Sales to related parties, which are included in sales and other operating revenues, consist primarily of refined product sales and renewable feedstock sales to certain of our equity affiliates.

Purchases from related parties are included in cost of revenues. We obtain utilities, transportation services and purchase ethanol from certain of our equity affiliates.

10. Earnings Per Share

We compute basic earnings (loss) per share by dividing net income (loss) attributable to MPC less income allocated to participating securities by the weighted average number of shares of common stock outstanding. Since MPC grants certain incentive compensation awards to employees and non-employee directors that are considered to be participating securities, we have calculated our earnings (loss) per share using the two-class method. Diluted income (loss) per share assumes exercise of certain share-based compensation awards, provided the effect is not anti-dilutive.

(In millions, except per share data)	2022	2021	2020
Income (loss) from continuing operations, net of tax	$ 15,978	$ 2,553	$ (11,182)
Less: Net income (loss) attributable to noncontrolling interest	1,534	1,263	(151)
Net income allocated to participating securities	8	2	1
Income (loss) from continuing operations available to common stockholders	14,436	1,288	(11,032)
Income from discontinued operations, net of tax	72	8,448	1,205
Income (loss) available to common stockholders	$ 14,508	$ 9,736	$ (9,827)
Weighted average common shares outstanding:			
Basic	512	634	649
Effect of dilutive securities	4	4	—
Diluted	516	638	649

(In millions, except per share data)	2022	2021	2020
Income (loss) available to common stockholders per share:			
Basic:			
Continuing operations	$ 28.17	$ 2.03	$ (16.99)
Discontinued operations	0.14	13.31	1.86
Net income (loss) per share	$ 28.31	$ 15.34	$ (15.13)
Diluted:			
Continuing operations	$ 27.98	$ 2.02	$ (16.99)
Discontinued operations	0.14	13.22	1.86
Net income (loss) per share	$ 28.12	$ 15.24	$ (15.13)

The following table summarizes the shares that were anti-dilutive, and therefore, were excluded from the diluted share calculation.

(In millions)	2022	2021	2020
Shares issuable under share-based compensation plans	—	3	11

11. Equity

We announced our board of directors approved a $5.0 billion share repurchase authorization on February 2, 2022, which was exhausted during the fourth quarter of 2022, and an additional $5.0 billion share repurchase authorization on August 2, 2022. These authorization have no expiration date.

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, tender offers, accelerated share repurchases or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be suspended or discontinued at any time.

Total share repurchases were as follows for the respective periods:

(In millions, except per share data)	2022	2021	2020
Number of shares repurchased	131	76	—
Cash paid for shares repurchased	$ 11,922	$ 4,654	$ —
Average cost per share	$ 91.20	$ 62.65	$ —

As of December 31, 2022, MPC had $3.33 billion remaining under its share repurchase authorizations, which reflects the repurchase of 830,000 common shares for $96 million that settled in the first quarter of 2023.

12. Segment Information

We have two reportable segments: Refining & Marketing and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks, including renewable feedstocks, at our refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States, purchases refined products and ethanol for resale and distributes refined products, including renewable diesel, through transportation, storage, distribution and marketing services provided largely by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market, to independent entrepreneurs who operate primarily Marathon® branded outlets and through long-term fuel supply contracts with direct dealers who operate locations mainly under the ARCO® brand.
- Midstream – transports, stores, distributes and markets crude oil and refined products principally for the Refining & Marketing segment via refining logistics assets, pipelines, terminals, towboats and barges; gathers, processes and transports natural gas; and gathers, transports, fractionates, stores and markets NGLs. The Midstream segment primarily reflects the results of MPLX.

During the first quarter of 2022, our chief operating decision maker ("CODM") began to evaluate the performance of our segments using segment adjusted EBITDA. We have modified our presentation of segment performance to be consistent with this change, including prior periods presented for consistent and comparable presentation. Amounts included in income (loss) from continuing operations before income taxes and excluded from adjusted EBITDA include: (i) depreciation and amortization; (ii) net interest and other financial costs; (iii) turnaround expenses and (iv) other adjustments as deemed necessary. These items are either: (i) believed to be non-recurring in nature; (ii) not believed to be allocable or controlled by the segment; or (iii) not tied to the operational performance of the segment. Assets by segment are not a measure used to assess the performance of the company by the CODM and thus are not reported in our disclosures.

(Millions of dollars)	2022	2021	2020
Segment adjusted EBITDA for reportable segments			
Refining & Marketing	19,261	$ 3,518	$ (1,939)
Midstream	5,772	5,410	5,061
Total reportable segments	$ 25,033	$ 8,928	$ 3,122
Reconciliation of segment adjusted EBITDA for reportable segments to income (loss) from continuing operations before income taxes			
Total reportable segments	$ 25,033	$ 8,928	$ 3,122
Corporate	(698)	(587)	(635)
Refining planned turnaround costs	(1,122)	(582)	(832)
Storm impacts	—	(70)	—
LIFO inventory (charge) credit	148	—	(561)
Gain on sale of assets[(a)]	1,058	—	66
Renewable volume obligation requirements[(b)]	238	—	—
Litigation	27	—	84
Impairments[(c)]	—	(13)	(9,741)
Idling facility expenses	—	(12)	—
Restructuring expenses[(d)]	—	—	(367)
Transaction related costs[(e)]	—	—	(8)
Depreciation and amortization	(3,215)	(3,364)	(3,375)
Net interest and other financial costs	(1,000)	(1,483)	(1,365)
Income (loss) from continuing operations before income taxes	$ 20,469	$ 2,817	$ (13,612)

(a) 2022 includes the non-cash gain related to the contribution of assets by MPC on the formation of the Martinez Renewables joint venture and the non-cash gain on lease reclassification. See Note 16 and 28 for additional information.

(b) Represents retroactive changes in renewable volume obligation requirements published by the EPA in June 2022 for the 2020 and 2021 annual obligations.

(c) 2021 reflects impairments of equity method investments. 2020 reflects impairments of goodwill, equity method investments and long lived assets. See Note 7.

(d) See Note 19.

(e) 2020 includes costs incurred in connection with the Midstream strategic review and other related efforts. Costs incurred in connection with the Speedway separation are included in discontinued operations. See Note 5.

(Millions of dollars)	2022	2021	2020
Sales and other operating revenues			
Refining & Marketing			
Revenues from external customers[a]	$ 172,087	$ 115,350	$ 66,180
Intersegment revenues	118	144	67
Refining & Marketing segment revenues	172,205	115,494	66,247
Midstream			
Revenues from external customers[a]	5,366	4,633	3,599
Intersegment revenues	5,224	4,986	4,839
Midstream segment revenues	10,590	9,619	8,438
Total segment revenues	182,795	125,113	74,685
Less: intersegment revenues	5,342	5,130	4,906
Consolidated sales and other operating revenues	$ 177,453	$ 119,983	$ 69,779

(a) Includes Refining & Marketing intercompany sales to Speedway prior to May 14, 2021 and related party sales. See Notes 5 and 9 for additional information.

(Millions of dollars)	2022	2021	2020
Income (loss) from equity method investments			
Refining & Marketing	$ 31	$ 59	$ 2
Midstream	624	412	378
Corporate[a]	—	(13)	(1,315)
Consolidated income (loss) from equity method investments	$ 655	$ 458	$ (935)
Depreciation and amortization			
Refining & Marketing	$ 1,850	$ 1,870	$ 1,857
Midstream	1,310	1,329	1,353
Corporate[b]	55	165	165
Consolidated depreciation and amortization	$ 3,215	$ 3,364	$ 3,375
Capital expenditures			
Refining & Marketing	$ 1,508	$ 911	$ 1,170
Midstream	1,069	731	1,398
Segment capital expenditures and investments	2,577	1,642	2,568
Less investments in equity method investees	405	210	485
Plus:			
Corporate	108	105	80
Capitalized interest	103	68	106
Consolidated capital expenditures[c]	$ 2,383	$ 1,605	$ 2,269

(a) Impairment of equity method investment. See Note 7.

(b) 2021 includes an impairment of $56 million. See Note 7.

(c) Includes changes in capital expenditure accruals. See Note 24 for a reconciliation of total capital expenditures to additions to property, plant and equipment as reported in the consolidated statements of cash flows.

Since we will continue to supply fuel to Speedway subsequent to the sale to 7-Eleven, we have reported intersegment sales to Speedway, that were previously eliminated in consolidation, as third-party sales. All periods presented have been retrospectively adjusted through the sale date of May 14, 2021 to reflect this change. Sales to Speedway/7-Eleven from the Refining & Marketing segment represented 10 percent, 11 percent and 11 percent of our total annual revenues for the years ended December 31, 2022, 2021 and 2020, respectively. See Note 23 for the disaggregation of our revenue by segment and product line.

We do not have significant operations in foreign countries. Therefore, revenues in foreign countries and long-lived assets located in foreign countries, including property, plant and equipment and investments, are not material to our operations.

13. Net Interest and Other Financial Costs

Net interest and other financial costs were as follows:

(Millions of dollars)	2022	2021	2020
Interest income	$ (191)	$ (14)	$ (9)
Interest expense	1,299	1,340	1,462
Interest capitalized	(104)	(73)	(129)
Pension and other postretirement non-service costs[(a)]	3	64	11
(Gain) loss on extinguishment of debt	2	133	(9)
Investments - net premium (discount) amortization	(30)	(1)	—
Other financial costs	21	34	39
Net interest and other financial costs	$ 1,000	$ 1,483	$ 1,365

(a) See Note 26.

14. Income Taxes

The provision (benefit) for income taxes from continuing operations consisted of:

(Millions of dollars)	2022	2021	2020
Current:			
Federal	$ 3,565	$ 380	$ (2,267)
State and local	629	48	69
Foreign	7	5	9
Total current	4,201	433	(2,189)
Deferred:			
Federal	191	(164)	90
State and local	98	(6)	(347)
Foreign	1	1	16
Total deferred	290	(169)	(241)
Income tax provision (benefit)	$ 4,491	$ 264	$ (2,430)

Our effective tax rate for the year ended December 31, 2022 was higher than the tax computed at the U.S. statutory rate primarily due to state taxes, partially offset by permanent tax benefits related to net income attributable to noncontrolling interests.

Our effective tax rate for the year ended December 31, 2021 was lower than the tax computed at the U.S. statutory rate primarily due to permanent tax benefits related to net income attributable to noncontrolling interests and an increase in benefit related to the net operating loss (“NOL”) carryback provided under the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”), partially offset by state taxes and local income taxes.

Our effective income tax benefit rate for the year ended December 31, 2020 was lower than the tax benefit computed at the U.S. statutory rate due to a significant amount of our pre-tax loss consisting of non-deductible goodwill impairment charges, partially offset by the tax rate differential resulting from the NOL carryback provided under the CARES Act. Additionally, our non-controlling interest in MPLX generally provides an effective tax rate benefit since the tax associated with these ownership interests is paid by those interests, but this benefit was lower for the year ended December 31, 2020 due to impairment charges recorded by MPLX.

A reconciliation of the federal statutory income tax rate to the effective tax rate applied to income (loss) from continuing operations before income taxes follows:

	2022	2021	2020
Federal statutory rate	21 %	21 %	21 %
State and local income taxes, net of federal income tax effects	3	2	2
Goodwill impairment	—	—	(8)
Noncontrolling interests	(2)	(9)	—
Legislation	—	(3)	4
Other	—	(2)	(1)
Effective tax rate applied to income (loss) from continuing operations before income taxes	22 %	9 %	18 %

On March 27, 2020, the CARES Act was enacted by Congress and signed into law by President Trump in response to the COVID-19 pandemic. The CARES Act contained a NOL carryback provision which allowed MPC to carryback our 2020 taxable loss to 2015 and later years. The five-year NOL carryback is available for all businesses producing taxable losses in 2018 through 2020. Based on the NOL carryback, as provided by the CARES Act, we realized a cumulative income tax benefit of $2.30 billion. We received $1.55 billion of the income tax benefit in cash during the fourth quarter of 2021, an additional $690 million was realized as an offset to 2021 income tax liability payment obligations and we expect to receive the remaining $59 million refund during 2023.

Deferred tax assets and liabilities resulted from the following:

	December 31,	
(Millions of dollars)	2022	2021
Deferred tax assets:		
Employee benefits	$ 481	$ 495
Environmental remediation	84	91
Finance lease obligations	371	339
Operating lease liabilities	224	263
Net operating loss carryforwards	44	122
Tax credit carryforwards	20	19
Goodwill and other intangibles	56	35
Other	44	58
Total deferred tax assets	1,324	1,422
Deferred tax liabilities:		
Property, plant and equipment	2,656	2,716
Inventories	686	717
Investments in subsidiaries and affiliates	3,660	3,350
Right of use assets	223	257
Other	2	18
Total deferred tax liabilities	7,227	7,058
Net deferred tax liabilities	$ 5,903	$ 5,636

Net deferred tax liabilities were classified in the consolidated balance sheets as follows:

	December 31,	
(Millions of dollars)	2022	2021
Assets:		
Other noncurrent assets	$ 1	$ 2
Liabilities:		
Deferred income taxes	5,904	5,638
Net deferred tax liabilities	$ 5,903	$ 5,636

At both December 31, 2022 and 2021, federal operating loss carryforwards were $4 million, which includes a mix of indefinite carryforward ability and expiration periods ranging from 2032 through 2037. As of December 31, 2022 and 2021, state and local operating loss and tax credit carryforwards were $40 million and $128 million, respectively, which includes a mix of indefinite carryforward ability and expiration periods ranging from 2023 through 2040. As of December 31, 2022 and 2021, foreign operating loss carryforwards were $20 million and $9 million, respectively, which includes expiration periods ranging from 2029 through 2043.

As of December 31, 2022 and 2021, $49 million and $38 million of valuation allowances have been recorded related to income taxes, primarily related to realizability foreign tax operating losses and related deferred tax assets.

MPC is continuously undergoing examination of its U.S. federal income tax returns by the Internal Revenue Service ("IRS"). Since 2012, we have continued to participate in the Compliance Assurance Process ("CAP"). CAP is a real-time audit of the U.S. Federal income tax return that allows the IRS, working in conjunction with MPC, to determine tax return compliance with the U.S. Federal tax law prior to filing the return. This program provides us with greater certainty about our tax liability for years under examination by the IRS. During the fourth quarter of 2021, an IRS audit was initiated for MPLX and its subsidiaries for the tax year 2019 and continued during 2022. We do not believe the eventual outcome of such audit will have a material impact on our financial statements as of December 31, 2022.

Further, we are routinely involved in U.S. state income tax audits. We believe all other audits will be resolved with the amounts provided for these liabilities. As of December 31, 2022, we have various state and local income tax returns subject to examination for years 2006 through 2021, depending on jurisdiction.

The following table summarizes the activity in unrecognized tax benefits:

(Millions of dollars)	2022	2021	2020
January 1 balance	$ 37	$ 23	$ 32
Additions for tax positions of current year	—	6	—
Additions for tax positions of prior years	38	19	12
Reductions for tax positions of prior years	(2)	(4)	(18)
Settlements	(15)	(6)	(3)
Statute of limitations	(1)	(1)	—
December 31 balance	$ 57	$ 37	$ 23

If the unrecognized tax benefits as of December 31, 2022 were recognized, $49 million would affect our effective income tax rate. There were $29 million of uncertain tax positions as of December 31, 2022 for which it is reasonably possible that the amount of unrecognized tax benefits would significantly decrease during the next twelve months.

Interest and penalties related to income taxes are recorded as part of the provision for income taxes. Such interest and penalties were net expenses (benefits) of $1 million, $(2) million and $(19) million in 2022, 2021 and 2020, respectively. As of December 31, 2022 and 2021, $4 million and $6 million of interest and penalties receivables (payables) were accrued related to income taxes, respectively.

15. Inventories

	December 31,	
(Millions of dollars)	2022	2021
Crude oil	$ 3,047	$ 2,639
Refined products	4,748	4,460
Materials and supplies	1,032	956
Total	$ 8,827	$ 8,055

The LIFO method accounted for 88 percent of total inventory value at both December 31, 2022 and 2021. Current acquisition costs were estimated to exceed the LIFO inventory value by $3.72 billion as of December 31, 2022. There was $2.84 billion excess of replacement or current cost over our stated LIFO cost at December 31, 2021.

The cost of inventories of crude oil and refined products is determined primarily under the LIFO method.

16. Equity Method Investments

Crowley Ocean Partners

Crowley Coastal Partners was formed in May 2016 to own both Crowley Ocean Partners LLC (“Crowley Ocean Partners”) and Crowley Blue Waters Partners. MPC accounts for our 50 percent ownership in Crowley Coastal Partners as an equity method investment.

On December 1, 2022, MPC purchased all of Crowley Coastal Partner’s interest in Crowley Ocean Partners and its four subsidiaries for approximately $485 million, which included $196 million to pay off the debt associated with the four tankers. As a result of the transaction, Crowley Ocean Partners is now included in our consolidated results. MPC will continue to account for its 50 percent interest in Crowley Coastal Partners as an equity method investment.

The excess of the $144 million fair value over the $125 million book value of our 50 percent indirect interest in Crowley Ocean Partners resulted in a $19 million gain, which is included in the income (loss) from equity method investments line of the accompanying consolidated statements of income.

Martinez Renewables LLC

On September 21, 2022, MPC closed on the formation of the Martinez Renewable joint venture. MPC contributed property, plant and equipment, inventory, and working capital with an estimated fair value of $1.47 billion and Neste contributed $728 million in cash. MPC recorded a non-cash gain of $549 million resulting from the difference between the carrying value and fair value of the contributed property, plant and equipment and inventory. Subsequent to the closing, the joint venture paid a special distribution to MPC of $500 million, which is reflected as a return of capital in MPC’s consolidated statements of cash flows. After the special distribution, MPC’s investment value in the entity was approximately $971 million. We apply the equity method of accounting with respect to our investment in the entity.

Watson Cogeneration Company

On June 1, 2022, MPC purchased the remaining 49 percent interest in Watson Cogeneration Company from NRG Energy, Inc. for approximately $59 million. This entity is now consolidated and included in our consolidated results. It was previously accounted for as an equity method investment.

The excess of the $62 million fair value over the $25 million book value of our 51 percent ownership interest in Watson Cogeneration Company resulted in a $37 million non-cash gain, which is included in the net gain on disposal of assets line of the accompanying consolidated statements of income.

(In millions of dollars, except ownership percentages)	VIE	Ownership as of December 31, 2022	Carrying value at December 31, 2022	Carrying value at December 31, 2021
Refining & Marketing				
The Andersons Marathon Holdings LLC		50%	$ 204	$ 194
Martinez Renewables LLC	X	50%	1,070	—
Watson Cogeneration Company		—%	—	28
Other[(a)]	X		54	19
Refining & Marketing Total			$ 1,328	$ 241
Midstream				
MPLX				
Andeavor Logistics Rio Pipeline LLC	X	67%	$ 177	$ 183
Centrahoma Processing LLC		40%	131	133
Illinois Extension Pipeline Company, L.L.C		35%	236	243
LOOP LLC		41%	287	265
MarEn Bakken Company LLC		25%	475	449
MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C.	X	67%	335	332
MarkWest Torñado GP, L.L.C.	X	60%	306	246
MarkWest Utica EMG, L.L.C.	X	57%	669	680
Minnesota Pipe Line Company, LLC		17%	178	183
Rendezvous Gas Services, L.L.C.	X	78%	137	147
Sherwood Midstream Holdings LLC	X	51%	125	136
Sherwood Midstream LLC	X	50%	512	544
Whistler Pipeline LLC	X	38%	211	155
Other[(a)]	X		316	285
MPLX Total			$ 4,095	$ 3,981
MPC-Retained				
Capline Pipeline Company LLC	X	33%	$ 404	$ 399
Crowley Coastal Partners, LLC	X	50%	55	185
Gray Oak Pipeline, LLC		25%	302	318
LOOP LLC		10%	71	66
South Texas Gateway Terminal LLC		25%	170	173
Other[(a)]	X		41	46
MPC-Retained Total			$ 1,043	$ 1,187
Midstream Total			$ 5,138	$ 5,168
Total			$ 6,466	$ 5,409

(a) Some investments included within “Other” have been deemed to be VIEs.

Summarized financial information for all equity method investments in affiliated companies, combined, was as follows:

(Millions of dollars)	2022	2021	2020
Income statement data:			
Revenues and other income	$ 5,069	$ 4,343	$ 3,013
Income from operations	1,907	1,389	599
Net income	1,740	1,230	454
Balance sheet data – December 31:			
Current assets	$ 1,811	$ 1,233	
Noncurrent assets	20,324	18,071	
Current liabilities	1,478	801	
Noncurrent liabilities	4,750	5,141	

As of December 31, 2022, the carrying value of our equity method investments was $304 million higher than the underlying net assets of investees. This basis difference is being amortized into net income over the remaining estimated useful lives of the underlying net assets, except for $208 million of excess related to goodwill and other non-depreciable assets.

Dividends and partnership distributions received from equity method investees (excluding distributions that represented a return of capital previously contributed) were $772 million, $652 million and $577 million in 2022, 2021 and 2020, respectively.

See Note 7 for information regarding impairments of equity method investments.

17. Property, Plant and Equipment

	December 31, 2022			December 31, 2021		
(Millions of dollars)	Gross PP&E	Accumulated Depreciation	Net PP&E	Gross PP&E	Accumulated Depreciation	Net PP&E
Refining & Marketing	$ 32,292	$ 16,745	$ 15,547	$ 31,089	$ 14,876	$ 16,213
Midstream	27,659	8,118	19,541	28,098	7,384	20,714
Corporate	1,550	981	569	1,446	933	513
Total[(a)]	$ 61,501	$ 25,844	$ 35,657	$ 60,633	$ 23,193	$ 37,440

(a) Includes finance leases. See Note 28.

Property, plant and equipment includes construction in progress of $2.29 billion and $2.27 billion at December 31, 2022 and 2021, respectively, which primarily relates to capital projects at our refineries and midstream facilities.

18. Goodwill and Intangibles

Goodwill

MPC annually evaluates goodwill for impairment as of November 30, as well as whenever events or changes in circumstances indicate it is more likely than not that the fair value of a reporting unit with goodwill is less than its carrying amount. There were no impairments of goodwill required based on our annual test of goodwill in 2022 and 2021.

At December 31, 2022, MPC had four reporting units with goodwill totaling approximately $8.24 billion. For the annual impairment assessment as of November 30, 2022, management performed only a qualitative assessment for three reporting units as we determined it was more likely than not that the fair value of the reporting units exceeded the carrying value. A quantitative assessment was performed for the remaining reporting unit, which resulted in the fair value of the reporting unit exceeding its carrying value by greater than 10 percent.

The changes in the carrying amount of goodwill for 2022 were as follows:

(Millions of dollars)	Refining & Marketing	Midstream	Total
Balance as of December 31, 2020	$ 561	$ 7,695	$ 8,256
Impairment losses	—	—	—
Balance as of December 31, 2021	561	7,695	8,256
Impairment losses	—	—	—
Disposal of assets	—	(12)	(12)
Balance as of December 31, 2022	$ 561	$ 7,683	$ 8,244
Gross goodwill as of December 31, 2022	$ 6,141	$ 10,824	$ 16,965
Accumulated impairment losses	(5,580)	(3,141)	(8,721)
Balance as of December 31, 2022	$ 561	$ 7,683	$ 8,244

Intangible Assets

Our definite lived intangible assets as of December 31, 2022 and 2021 are as shown below.

	December 31, 2022			December 31, 2021		
(Millions of dollars)	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Customer contracts and relationships	$ 3,624	$ 1,825	$ 1,799	$ 3,495	$ 1,457	$ 2,038
Brand rights and tradenames	100	64	36	100	50	50
Royalty agreements	138	103	35	135	96	39
Other	36	30	6	36	28	8
Total	$ 3,898	$ 2,022	$ 1,876	$ 3,766	$ 1,631	$ 2,135

At both December 31, 2022 and 2021, we had indefinite lived intangible assets of $71 million, which are emission allowance credits.

Amortization expense for 2022 and 2021 was $316 million and $330 million, respectively. Estimated future amortization expense for the next five years related to the intangible assets at December 31, 2022 is as follows:

(Millions of dollars)	
2023	$ 315
2024	257
2025	241
2026	221
2027	193

19. Restructuring

During the third quarter of 2020, we indefinitely idled our refinery located in Gallup, New Mexico and initiated actions to strategically reposition our Martinez, California refinery to a renewable diesel facility. We also approved an involuntary workforce reduction plan. In connection with these strategic actions, we recorded restructuring expenses of $367 million in 2020.

The indefinite idling of the Gallup refinery and actions to strategically reposition the Martinez refinery to a renewable diesel facility resulted in $195 million of restructuring expenses. Of the $195 million of restructuring expenses, we expect $130 million to settle in cash for costs related to decommissioning refinery processing units and storage tanks and fulfilling environmental remediation obligations. Additionally, we recorded a non-cash reserve against our materials and supplies inventory at these facilities of $51 million.

The involuntary workforce reduction plan, together with employee reductions resulting from our actions affecting the Gallup and Martinez refineries, affected approximately 2,050 employees. We recorded $172 million of restructuring expenses for separation benefits payable under our employee separation plan and certain collective bargaining agreements that we expect to settle in cash. Certain of the affected MPC employees provided services to MPLX. MPLX has various employee services agreements and secondment agreements with MPC pursuant to which MPLX reimburses MPC for employee costs, along with the provision of operational and management services in support of MPLX's operations. Pursuant to such agreements, MPC was reimbursed by MPLX for $37 million of the $172 million of restructuring expenses recorded for these actions.

Restructuring expenses were accrued as restructuring reserves within accounts payable, payroll and benefits payable, other current liabilities and deferred credits and other liabilities within our consolidated balance sheets. We expect cash payments for the remaining exit and disposal costs reserve to occur through 2024.

(Millions of dollars)	Employee separation costs	Exit and disposal costs	Total
Restructuring reserve balance at September 30, 2020[(a)]	$ 158	$ 133	$ 291
Adjustments	14	5	19
Cash payments	(134)	(35)	(169)
Restructuring reserve balance at December 31, 2020	38	103	141
Cash payments	(38)	(44)	(82)
Restructuring reserve balance at December 31, 2021	—	59	59
Cash payments	—	(13)	(13)
Restructuring reserve balance at December 31, 2022	$ —	$ 46	$ 46

(a) The restructuring reserve was zero until the third quarter of 2020.

20. Fair Value Measurements

Fair Values – Recurring

The following tables present assets and liabilities accounted for at fair value on a recurring basis as of December 31, 2022 and 2021 by fair value hierarchy level. We have elected to offset the fair value amounts recognized for multiple derivative contracts executed with the same counterparty, including any related cash collateral as shown below; however, fair value amounts by hierarchy level are presented on a gross basis in the following tables.

	December 31, 2022					
	Fair Value Hierarchy					
(Millions of dollars)	Level 1	Level 2	Level 3	Netting and Collateral[(a)]	Net Carrying Value on Balance Sheet[(b)]	Collateral Pledged Not Offset
Assets:						
Commodity contracts	$ 310	$ —	$ —	$ (243)	$ 67	$ 100
Liabilities:						
Commodity contracts	$ 301	$ —	$ —	$ (301)	$ —	$ —
Embedded derivatives in commodity contracts	—	—	61	—	61	—

	December 31, 2021					
	Fair Value Hierarchy					
(Millions of dollars)	Level 1	Level 2	Level 3	Netting and Collateral[(a)]	Net Carrying Value on Balance Sheet[(b)]	Collateral Pledged Not Offset
Assets:						
Commodity contracts	$ 270	$ 1	$ —	$ (235)	$ 36	$ 34
Liabilities:						
Commodity contracts	$ 248	$ 1	$ —	$ (249)	$ —	$ —
Embedded derivatives in commodity contracts	—	—	108	—	108	—

(a) Represents the impact of netting assets, liabilities and cash collateral when a legal right of offset exists. As of December 31, 2022, cash collateral of $58 million was netted with mark-to-market liabilities. As of December 31, 2021, cash collateral of $14 million was netted with mark-to-market derivative liabilities.

(b) We have no derivative contracts which are subject to master netting arrangements reflected gross on the balance sheet.

Level 3 instruments relate to an embedded derivative liability for a natural gas purchase commitment embedded in a keep-whole processing agreement. The fair value calculation for these Level 3 instruments at December 31, 2022 used significant unobservable inputs including: (1) NGL prices interpolated and extrapolated due to inactive markets ranging from $0.68 to $1.62 per gallon with a weighted average of $0.84 per gallon and (2) the probability of renewal of 100 percent for the five-year term of the natural gas purchase agreement and the related keep-whole processing agreement. Increases or decreases in the fractionation spread result in an increase or decrease in the fair value of the embedded derivative liability.

The following is a reconciliation of the beginning and ending balances recorded for net liabilities classified as Level 3 in the fair value hierarchy.

(Millions of dollars)	2022	2021
Beginning balance	$ 108	$ 63
Unrealized and realized (gain)/loss included in net income	(35)	59
Settlements of derivative instruments	(12)	(14)
Ending balance	$ 61	$ 108
The amount of total (gain)/ loss for the period included in earnings attributable to the change in unrealized (gain)/loss relating to liabilities still held at the end of period:	$ (33)	$ 47

See Note 21 for the income statement impacts of our derivative instruments.

Fair Values – Non-recurring

Non-recurring fair value measurements and disclosures relate primarily to sales-type leases discussed in Note 28 and the Martinez Renewables LLC equity method investment discussed in Note 16. The net investment in sales-type leases was recorded at the estimated fair value of the underlying leased assets at contract modification date. The leased assets were valued using a cost method valuation approach which utilizes Level 3 inputs. The fair value of the Martinez Renewables LLC equity method investment was primarily based on the cash consideration received from Neste for their 50 percent ownership.

Fair Values – Reported

We believe the carrying value of our other financial instruments, including cash and cash equivalents, receivables, accounts payable and certain accrued liabilities, approximate fair value. Our fair value assessment incorporates a variety of considerations, including the short-term duration of the instruments and the expected insignificance of bad debt expense, which includes an evaluation of counterparty credit risk. The borrowings under our revolving credit facilities, which include variable interest rates, approximate fair value. The fair value of our long-term debt is based on prices from recent trade activity and is categorized in Level 3 of the fair value hierarchy. The carrying and fair values of our debt were approximately $26.3 billion and $24.0 billion at December 31, 2022, respectively, and approximately $25.1 billion and $28.1 billion at December 31, 2021, respectively. These carrying and fair values of our debt exclude the unamortized issuance costs which are netted against our total debt.

21. Derivatives

For further information regarding the fair value measurement of derivative instruments, including any effect of master netting agreements or collateral, see Note 20. See Note 2 for a discussion of the types of derivatives we use and the reasons for them. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

The following table presents the fair value of derivative instruments as of December 31, 2022 and 2021 and the line items in the consolidated balance sheets in which the fair values are reflected. The fair value amounts below are presented on a gross basis and do not reflect the netting of asset and liability positions permitted under the terms of our master netting arrangements including cash collateral on deposit with, or received from, brokers. We offset the recognized fair value amounts for multiple derivative instruments executed with the same counterparty in our financial statements when a legal right of offset exists. As a result, the asset and liability amounts below will not agree with the amounts presented in our consolidated balance sheets.

(Millions of dollars)	December 31, 2022		December 31, 2021	
Balance Sheet Location	Asset	Liability	Asset	Liability
Commodity derivatives				
Other current assets	$ 310	$ 301	$ 271	$ 249
Other current liabilities[a]	—	10	—	15
Deferred credits and other liabilities[a]	—	51	—	93

(a) Includes embedded derivatives.

The table below summarizes open commodity derivative contracts for crude oil, refined products and blending products as of December 31, 2022.

(Units in thousands of barrels)	Percentage of contracts that expire next quarter	Position	
		Long	Short
Exchange-traded[(a)]			
Crude oil	65.1%	69,275	82,639
Refined products	76.6%	16,669	9,226
Blending products	98.8%	1,443	4,885
Soybean oil	53.5%	2,103	2,623

(a) Included in exchange-traded are spread contracts in thousands of barrels: Crude oil - 29,651 long and 29,876 short; Refined products - 1,390 long and 25 short. There are no spread contracts for blending products or soybean oil.

The following table summarizes the effect of all commodity derivative instruments in our consolidated statements of income:

(Millions of dollars)	Gain (Loss)		
Income Statement Location	2022	2021	2020
Sales and other operating revenues	$ —	$ (47)	$ 72
Cost of revenues	(58)	(333)	34
Other income	—	—	1
Total	$ (58)	$ (380)	$ 107

22. Debt

Our outstanding borrowings at December 31, 2022 and 2021 consisted of the following:

(Millions of dollars)	December 31, 2022	December 31, 2021
Marathon Petroleum Corporation:		
Senior notes	$ 6,449	$ 6,449
Notes payable	1	1
Finance lease obligations	522	589
Total	6,972	7,039
MPLX LP:		
Bank revolving credit facility	—	300
Senior notes	20,100	18,600
Finance lease obligations	8	9
Total	20,108	18,909
Total debt	27,080	25,948
Unamortized debt issuance costs	(142)	(129)
Unamortized discount, net of unamortized premium	(238)	(280)
Amounts due within one year	(1,066)	(571)
Total long-term debt due after one year	$ 25,634	$ 24,968

Commercial Paper

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of $2.0 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under the MPC Credit Agreement.

MPC Senior Notes

(Millions of dollars)	December 31, 2022	2021
Senior notes, 3.625% due September 2024	750	750
Senior notes, 4.700% due May 2025	1,250	1,250
Senior notes, 5.125% due December 2026	719	719
Senior notes, 3.800% due April 2028	496	496
Senior notes, 6.500% due March 2041	1,250	1,250
Senior notes, 4.750% due September 2044	800	800
Senior notes, 5.850% due December 2045	250	250
Senior notes, 4.500% due April 2048	498	498
Andeavor senior notes, 3.800% - 5.125% due 2026 – 2048	36	36
Senior notes, 5.000%, due September 2054	400	400
Total	$ 6,449	$ 6,449

2021 Activity

On March 1, 2021, we repaid the $1.0 billion outstanding aggregate principal amount of 5.125% senior notes due March 2021.

In June 2021, all of the $300 million outstanding aggregate principal amount of 5.125% senior notes due April 2024, including the portion of such notes for which Andeavor was the obligor, were redeemed at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.

On December 2, 2021, all of the $1.25 billion outstanding aggregate principal amount 4.5% senior notes due May 2023 and the $850 million outstanding aggregate principal amount of 4.75% senior notes due December 2023, including the portion of such notes for which Andeavor was the obligor, were redeemed at a price equal to par, plus a make-whole premium and accrued and unpaid interest to, but not including, the redemption date. The payment of $132 million related to the note premium, offset by the immediate expense recognition of $6 million of unamortized debt premium and issuance costs, resulted in a loss on extinguishment of debt of $126 million.

Interest on each series of senior notes is payable semi-annually in arrears. The MPC senior notes are unsecured and unsubordinated obligations of MPC and rank equally with all of MPC's other existing and future unsecured and unsubordinated indebtedness. The MPC senior notes are non-recourse and structurally subordinated to the indebtedness of our subsidiaries, including the outstanding indebtedness of Andeavor and MPLX. The Andeavor senior notes are unsecured, unsubordinated obligations of Andeavor and are non-recourse to MPC and any of MPC's subsidiaries other than Andeavor.

MPLX Senior Notes

(Millions of dollars)	December 31, 2022	2021
Senior notes, 3.500% due December 2022	$ —	$ 486
Senior notes, 3.375% due March 2023	—	500
Senior notes, 4.500% due July 2023	989	989
Senior notes, 4.875% due December 2024	1,149	1,149
Senior notes, 4.000% due February 2025	500	500
Senior notes, 4.875% due June 2025	1,189	1,189
MarkWest senior notes, 4.500% - 4.875% due 2023 – 2025	23	23
Senior notes, 1.750% due March 2026	1,500	1,500
Senior notes, 4.125% due March 2027	1,250	1,250
Senior notes, 4.250% due December 2027	732	732
Senior notes, 4.000% due March 2028	1,250	1,250
Senior notes, 4.800% due February 2029	750	750
Senior notes, 2.650% due August 2030	1,500	1,500

(Millions of dollars)	December 31, 2022	2021
Senior notes, 4.950% due September 2032	1,000	—
Senior notes, 4.500% due April 2038	1,750	1,750
Senior notes, 5.200% due March 2047	1,000	1,000
Senior notes, 5.200% due December 2047	487	487
ANDX senior notes, 3.500% - 5.250% due 2022 – 2047	31	45
Senior notes, 4.700% due April 2048	1,500	1,500
Senior notes, 5.500% due February 2049	1,500	1,500
Senior notes, 4.950% due March 2052	1,500	—
Senior notes, 4.900% due April 2058	500	500
Total	$ 20,100	$ 18,600

2022 Activity

On March 14, 2022, MPLX issued $1.5 billion aggregate principal amount of 4.950% senior notes due March 2052 in an underwritten public offering. The net proceeds were used to repay amounts outstanding under the MPC intercompany loan agreement and under the previous MPLX credit agreement.

On August 11, 2022, MPLX issued $1.0 billion aggregate principal amount of 4.950% senior notes due September 2032 in an underwritten public offering. The net proceeds were used to redeem all of the $500 million aggregate principal amount of 3.500% senior notes due December 2022, $14 million of which was issued by Andeavor Logistics LP, and to redeem all of the $500 million aggregate principal amount of 3.375% senior notes due March 2023.

2021 Activity

On January 15, 2021, MPLX redeemed all the $750 million outstanding aggregate principal amount of 5.250% senior notes due January 2025, including the portion of such notes issued by ANDX, at a price equal to 102.625% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.

On September 3, 2021, MPLX redeemed, at par value, all of the $1.0 billion aggregate principal amount of floating rate senior notes due September 2022, plus accrued and unpaid interest to, but not including, the redemption date. MPLX primarily funded the redemption with borrowings under the MPC intercompany loan agreement.

Interest on each series of MPLX fixed rate senior notes is payable semi-annually in arrears. The MPLX senior notes are unsecured, unsubordinated obligations of MPLX and are non-recourse to MPC and its subsidiaries other than MPLX and MPLX GP LLC, as the general partner of MPLX.

Schedule of Maturities

Principal maturities of long-term debt, excluding finance lease obligations, as of December 31, 2022 for the next five years are as follows:

(Millions of dollars)	
2023	$ 1,000
2024	1,901
2025	2,950
2026	2,249
2027	2,000

Available Capacity under our Facilities as of December 31, 2022

(Millions of dollars)	Total Capacity	Outstanding Borrowings	Outstanding Letters of Credit	Available Capacity	Weighted Average Interest Rate	Expiration
MPC, excluding MPLX						
MPC bank revolving credit facility	$ 5,000	$ —	$ 1	$ 4,999	—	July 2027
MPC trade receivables securitization facility[(a)]	100	—	100	—	—	September 2023
MPLX						
MPLX bank revolving credit facility	2,000	—	—	2,000	—	July 2027

(a) The committed borrowing and letter of credit issuance capacity of the trade receivables securitization facility is $100 million. In addition, the facility allows for the issuance of letters of credit in excess of the committed capacity at the discretion of the issuing banks. As of December 31, 2022, letters of credit in the total amount of $1.05 billion were issued and outstanding under the facility to secure contracts awarded by the Department of Energy to purchase crude oil from the Strategic Petroleum Reserve.

MPC Bank Revolving Credit Facility

On July 7, 2022, MPC entered into a new five-year revolving credit agreement (the “MPC Credit Agreement”) to replace its previous $5.0 billion credit facility that was scheduled to expire in October 2023. The MPC Credit Agreement, among other things, provides for a $5.0 billion unsecured revolving credit facility that matures in July 2027 and letter of credit issuing capacity under the facility of up to $2.2 billion. Letters of credit issuing capacity is included in, not in addition to, the $5.0 billion borrowing capacity. The financial covenants of the MPC Credit Agreement are substantially the same as those contained in the previous credit agreement.

MPC has an option under the MPC Credit Agreement to increase the aggregate commitments by up to an additional $1.0 billion, subject to, among other conditions, the consent of the lenders whose commitments would be increased. In addition, the maturity date may be extended, for up to two additional one year periods, subject to, among other conditions, the approval of lenders holding the majority of the commitments then outstanding, provided that the commitments of any non-consenting lenders will terminate on the then-effective maturity date. The MPC Credit Agreement includes sub-facilities for swing-line loans of up to $250 million and letters of credit of up to $2.2 billion (which may be increased to up to $3.0 billion upon receipt of additional letter of credit issuing commitments).

Borrowings under the MPC Credit Agreement bear interest, at our election, at either the Adjusted Term SOFR or the Alternate Base Rate, both as defined in the MPC Credit Agreement, plus an applicable margin. We are charged various fees and expenses in connection with the agreement, including administrative agent fees, commitment fees on the unused portion of the commitments and fees with respect to issued and outstanding letters of credit. The applicable margins to the benchmark interest rates and the commitment fees payable under the MPC Credit Agreement fluctuate based on changes, if any, to our credit ratings.

The MPC Credit Agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for arrangements of this type, including a financial covenant that requires us to maintain a ratio of Consolidated Net Debt to Total Capitalization, each as defined in the MPC Credit Agreement, of no greater than 0.65 to 1.00 as of the last day of each fiscal quarter. The covenants also restrict, among other things, our ability and/or the ability of certain of our subsidiaries to incur debt, create liens on assets or enter into transactions with affiliates. As of December 31, 2022, we were in compliance with the covenants contained in the MPC Credit Agreement.

Trade Receivables Securitization Facility

On September 30, 2021, we entered into a Loan and Security Agreement and related documentation with a group of lenders providing for a new trade receivables securitization facility having $100 million of committed borrowing and letter of credit issuance capacity and up to an additional $400 million of uncommitted borrowing and letter of credit issuance capacity that can be extended at the discretion of the lenders, provided that at no time may outstanding borrowings and letters of credit issued under the facility exceed the balance of eligible trade receivables (as calculated in accordance with the Loan and Security Agreement) that are pledged as collateral under the facility. In July 2022, the trade receivables securitization facility was amended to, among other things, extend its term until September 29, 2023.

The trade receivables facility consists of certain of our wholly owned subsidiaries (“Originators”) selling or contributing on an on-going basis all of the trade receivables generated by them (the “Pool Receivables”), together with all related security and interests in the proceeds thereof, without recourse, to another wholly owned, bankruptcy-remote special purpose subsidiary, MPC Trade Receivables Company I LLC (“TRC”), in exchange for a combination of cash, equity and/or borrowings under a subordinated note issued by TRC. TRC may request borrowings and extensions of credit under the Loan and Security Agreement for up to the lesser of the maximum capacity under the facility or the eligible trade receivables balance of the Pool Receivables. TRC and each of the Originators have granted a security interest in all of their rights, title and interests in and to the

Pool Receivables, together with all related security and interests in the proceeds thereof, to the lenders to secure the performance of TRC's and the Originators' payment and other obligations under the facility. In addition, MPC has issued a performance guaranty in favor of the lenders guaranteeing the performance by TRC and the Originators of their obligations under the facility.

To the extent that TRC retains an ownership interest in the Pool Receivables, such interest will be included in our consolidated financial statements solely as a result of the consolidation of the financial statements of TRC with those of MPC. The receivables sold or contributed to TRC are available first and foremost to satisfy claims of the creditors of TRC and are not available to satisfy the claims of creditors of MPC. TRC has granted a security interest in all of its assets to the lenders to secure its obligations under the Loan and Security Agreement.

TRC pays floating-rate interest charges and usage fees on amounts outstanding under the trade receivables facility, if any, unused fees on the portion of unused commitments and certain other fees related to the administration of the facility and letters of credit that are issued and outstanding under the trade receivables facility.

The Loan and Security Agreement and other documents comprising the facility contain representations and covenants that we consider usual and customary for arrangements of this type. Trade receivables are subject to customary criteria, limits and reserves before being deemed to be eligible receivables that count towards the borrowing base under the trade receivables facility. In addition, the lender's commitments to extend loans and credits under the facility are subject to termination, and TRC may be subject to default fees, upon the occurrence of certain events of default that are included in the Loan and Security Agreement and other facility documentation, all of which we consider to be usual and customary for arrangements of this type. As of December 31, 2022, we were in compliance with the covenants contained in the Loan and Security Agreement and other facility documentation.

MPLX Bank Revolving Credit Facility

On July 7, 2022, MPLX entered into a new five-year revolving credit agreement (the "MPLX Credit Agreement") to replace its previous $3.5 billion credit facility that was scheduled to expire in July 2024. The MPLX Credit Agreement, among other things, provides for a $2.0 billion unsecured revolving credit facility that matures in July 2027 and letter of credit issuing capacity under the facility of up to $150 million. Letters of credit issuing capacity is included in, not in addition to, the $2.0 billion borrowing capacity.

The borrowing capacity under the MPLX Credit Agreement may be increased by up to an additional $1.0 billion, subject to certain conditions, including the consent of the lenders whose commitments would increase. In addition, the maturity date may be extended, for up to two additional one year periods, subject to, among other conditions, the approval of lenders holding the majority of the commitments then outstanding, provided that the commitments of any non-consenting lenders will terminate on the then-effective maturity date.

Borrowings under the MPLX Credit Agreement bear interest, at MPLX's election, at either the Adjusted Term SOFR or the Alternate Base Rate, both as defined in the MPLX Credit Agreement, plus an applicable margin. MPLX is charged various fees and expenses in connection with the agreement, including administrative agent fees, commitment fees on the unused portion of the commitments and fees with respect to issued and outstanding letters of credit. The applicable margins to the benchmark interest rates and the commitment fees payable under the MPLX Credit Agreement fluctuate based on changes, if any, to MPLX's credit ratings.

The MPLX Credit Agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type, including a financial covenant that requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA, both as defined in the MPLX Credit Agreement, for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. The covenants also restrict, among other things, MPLX's ability and/or the ability of certain of its subsidiaries to incur debt, create liens on assets and enter into transactions with affiliates. As of December 31, 2022, MPLX was in compliance with the covenants contained in the MPLX Credit Agreement.

23. Revenue

The following table presents our revenues from external customers disaggregated by segment and product line:

(Millions of dollars)	2022	2021	2020
Refining & Marketing			
Refined products	$ 161,362	$ 107,345	$ 61,648
Crude oil	8,962	7,132	4,023
Services and other	1,763	873	509
Total revenues from external customers	172,087	115,350	66,180
Midstream			
Refined products	2,219	1,590	641
Services and other[(a)]	3,147	3,043	2,958
Total revenues from external customers	5,366	4,633	3,599
Sales and other operating revenues	$ 177,453	$ 119,983	$ 69,779

(a) Includes sales-type lease revenue. See Note 28.

We do not disclose information on the future performance obligations for any contract with expected duration of one year or less at inception. As of December 31, 2022, we do not have future performance obligations that are material to future periods.

Receivables

On the accompanying consolidated balance sheets, receivables, less allowance for doubtful accounts primarily consists of customer receivables. Significant, non-customer balances included in our receivables at December 31, 2022 include matching buy/sell receivables of $6.25 billion.

24. Supplemental Cash Flow Information

(Millions of dollars)	2022	2021	2020
Net cash provided by operating activities included:			
Interest paid (net of amounts capitalized)	$ 1,060	$ 1,231	$ 1,235
Net income taxes paid to (received from) taxing authorities	4,869	2,436	(179)
Cash paid for amounts included in the measurement of lease liabilities			
Payments on operating leases	498	569	651
Interest payments under finance lease obligations	24	21	25
Net cash provided by financing activities included:			
Principal payments under finance lease obligations	79	71	66
Non-cash investing and financing activities:			
Right of use assets obtained in exchange for new operating lease obligations	367	349	343
Right of use assets obtained in exchange for new finance lease obligations	60	37	110
Contribution of assets[(a)]	818	—	—
Book value of equity method investment[(b)]	150	—	—

(a) Represents the book value of property, plant and equipment, inventory and working capital contributed by MPC to Martinez Renewables LLC. See Note 16 for additional information.

(b) Represents the book value of MPC's equity method investment in Watson Cogeneration Company and Crowley Ocean Partners prior to MPC buying out the remaining interest in these entities. See Note 16 for additional information.

The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. The following is a reconciliation of additions to property, plant and equipment to total capital expenditures:

(Millions of dollars)	2022	2021	2020
Additions to property, plant and equipment per the consolidated statements of cash flows	$ 2,420	$ 1,464	$ 2,787
Increase (decrease) in capital accruals	(37)	141	(518)
Total capital expenditures	$ 2,383	$ 1,605	$ 2,269

25. Accumulated Other Comprehensive Income (Loss)

The following table shows the changes in accumulated other comprehensive income (loss) by component. Amounts in parentheses indicate debits.

(Millions of dollars)	Pension Benefits	Other Benefits	Other	Total
Balance as of December 31, 2020	$ (338)	$ (181)	$ 7	$ (512)
Other comprehensive income (loss) before reclassifications, net of tax of $127	171	220	(5)	386
Amounts reclassified from accumulated other comprehensive loss:				
Amortization of prior service cost (credit)[a]	(45)	2	—	(43)
Amortization of actuarial loss[a]	37	10	—	47
Settlement loss[a]	75	1	—	76
Other	—	—	(1)	(1)
Tax effect	(17)	(3)	—	(20)
Other comprehensive income (loss)	221	230	(6)	445
Balance as of December 31, 2021	$ (117)	$ 49	$ 1	$ (67)

(Millions of dollars)	Pension Benefits	Other Benefits	Other	Total
Balance as of December 31, 2021	$ (117)	$ 49	$ 1	$ (67)
Other comprehensive income (loss) before reclassifications, net of tax of $11	(70)	129	(1)	58
Amounts reclassified from accumulated other comprehensive loss:				
Amortization of prior service credit[a]	(45)	(22)	—	(67)
Amortization of actuarial loss[a]	4	6	—	10
Settlement loss[a]	79	—	—	79
Tax effect	(14)	3	—	(11)
Other comprehensive income (loss)	(46)	116	(1)	69
Balance as of December 31, 2022	$ (163)	$ 165	$ —	$ 2

(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost. See Note 26.

26. Pension and Other Postretirement Benefits

We have noncontributory defined benefit pension plans covering substantially all employees. Benefits under these plans have been based primarily on age, years of service and final average pensionable earnings. The years of service component of these formulae was frozen as of December 31, 2009. Certain of the pensionable earnings components were frozen as of December 31, 2012. Benefits for service beginning January 1, 2010 and beginning on January 1, 2016 are based on a cash balance formula with an annual percentage of eligible pay credited based upon age and years of service or at a flat rate of eligible pay, depending on covered employee group. Substantially all of our employees also accrue benefits under a defined contribution plan.

(Millions of dollars)	2022	2021	2020
Cash balance weighted average interest crediting rates	3.00 %	3.00 %	3.00 %

We also have other postretirement benefits covering most employees. Retiree health care benefits are provided through comprehensive hospital, surgical, major medical benefit, prescription drug and related health benefit provisions subject to various cost sharing features. Retiree life insurance benefits are provided to a closed group of retirees. Other postretirement benefits are not funded in advance.

In connection with the Andeavor acquisition, we assumed a number of additional qualified and nonqualified noncontributory benefit pension plans, covering substantially all former Andeavor employees. Benefits under these plans are determined based on final average compensation and years of service through December 31, 2010 and a cash balance formula for service beginning January 1, 2011. These plans were frozen as of December 31, 2018. Further, as of December 31, 2019, the qualified plans were merged with our existing qualified plans in which the actuarial assumptions were materially the same between the plans. We also assumed a number of additional postretirement benefits covering eligible employees. These benefits were merged with our existing benefits beginning January 1, 2019.

Obligations and Funded Status

The accumulated benefit obligation for all defined benefit pension plans was $2,272 million and $2,995 million as of December 31, 2022 and 2021.

The following summarizes the projected benefit obligations and funded status for our defined benefit pension and other postretirement plans:

	Pension Benefits		Other Benefits	
(Millions of dollars)	2022	2021	2022	2021
Benefit obligations at January 1	$ 3,295	$ 3,671	$ 828	$ 1,131
Service cost	228	297	26	34
Interest cost	102	93	21	30
Actuarial gain[(a)]	(653)	(169)	(168)	(16)
Benefits paid[(b)]	(613)	(594)	(57)	(75)
Plan amendments	—	—	—	(276)
Other	—	(3)	—	—
Benefit obligations at December 31	2,359	3,295	650	828
Fair value of plan assets at January 1	3,043	2,621	—	—
Actual return on plan assets	(622)	194	—	—
Employer contributions[(c)]	30	822	57	75
Benefits paid from plan assets	(613)	(594)	(57)	(75)
Fair value of plan assets at December 31	1,838	3,043	—	—
Funded status at December 31	$ (521)	$ (252)	$ (650)	$ (828)

(a) The primary driver of the actuarial gain for the pension and other postretirement benefits plans in 2022 was the increase in discount rate compared to 2021.

(b) Of the $613 million in benefits paid in 2022, $285 million is related to the pension annuity lift-out.

(c) Of the $822 million in pension employer contributions in 2021, $763 million was voluntary contributions.

Amounts recognized in the consolidated balance sheet for our pension and other postretirement benefit plans at December 31 include:

	Pension Benefits		Other Benefits	
(Millions of dollars)	2022	2021	2022	2021
Current liabilities	$ (7)	$ (11)	$ (50)	$ (54)
Noncurrent liabilities	(514)	(241)	(600)	(774)
Accrued benefit cost	$ (521)	$ (252)	$ (650)	$ (828)

Included in accumulated other comprehensive loss at December 31 were the following before-tax amounts that had not been recognized in net periodic benefit cost:

	Pension Benefits		Other Benefits	
(Millions of dollars)	2022	2021	2022	2021
Net actuarial loss	$ 386	$ 360	$ 19	$ 192
Prior service credit	(114)	(159)	(224)	(246)

Amounts exclude those related to LOOP and Explorer, equity method investees with defined benefit pension and postretirement plans for which net losses (gains) of $11 million and $(1) million were recorded in accumulated other comprehensive income (loss) in 2022, reflecting our ownership share.

Components of Net Periodic Benefit Cost and Other Comprehensive (Income) Loss

The following summarizes the net periodic benefit costs and the amounts recognized as other comprehensive loss (pretax) for our defined benefit pension and other postretirement plans.

	Pension Benefits			Other Benefits		
(Millions of dollars)	2022	2021	2020	2022	2021	2020
Service cost	$ 230	$ 287	$ 283	$ 26	$ 34	$ 35
Interest cost	102	93	98	21	30	32
Expected return on plan assets	(142)	(139)	(133)	—	—	—
Amortization of prior service cost (credit)	(45)	(45)	(45)	(22)	2	—
Amortization of actuarial loss	4	37	36	6	10	3
Settlement loss	79	75	20	—	1	—
Net periodic benefit cost[(a)]	$ 228	$ 308	$ 259	$ 31	$ 77	$ 70
Actuarial (gain) loss	$ 109	$ (227)	$ 179	$ (167)	$ (16)	$ 83
Prior service credit	—	—	—	—	(276)	—
Amortization of actuarial loss	(83)	(112)	(56)	(6)	(11)	(3)
Amortization of prior service (cost) credit	45	45	45	22	(2)	—
Total recognized in other comprehensive (income) loss	$ 71	$ (294)	$ 168	$ (151)	$ (305)	$ 80
Total recognized in net periodic benefit cost and other comprehensive (income) loss	$ 299	$ 14	$ 427	$ (120)	$ (228)	$ 150

(a) Net periodic benefit cost reflects a calculated market-related value of plan assets which recognizes changes in fair value over three years.

For certain of our pension plans, lump sum payments to employees retiring in 2022, 2021 and 2020 exceeded the plan’s total service and interest costs expected for those years. Settlement losses are required to be recorded when lump sum payments exceed total service and interest costs. As a result, pension settlement expenses were recorded in 2022, 2021 and 2020.

Plan Assumptions

The following summarizes the assumptions used to determine the benefit obligations at December 31, and net periodic benefit cost for the defined benefit pension and other postretirement plans for 2022, 2021 and 2020.

	Pension Benefits			Other Benefits		
	2022	2021	2020	2022	2021	2020
Benefit obligation:						
Discount rate	5.04 %	2.82 %	2.44 %	5.08 %	2.93 %	2.55 %
Rate of compensation increase	4.18 %	5.70 %	5.70 %	4.18 %	5.70 %	5.70 %
Net periodic benefit cost:						
Discount rate	3.33 %	2.70 %	3.00 %	2.93 %	2.55 %	3.23 %
Expected long-term return on plan assets	5.75 %	5.75 %	5.75 %	— %	— %	— %
Rate of compensation increase	4.18 %	5.70 %	5.70 %	4.18 %	5.70 %	5.70 %

Expected Long-term Return on Plan Assets

The overall expected long-term return on plan assets assumption is determined based on an asset rate-of-return modeling tool developed by a third-party investment group. The tool utilizes underlying assumptions based on actual returns by asset category and inflation and takes into account our asset allocation to derive an expected long-term rate of return on those assets. Capital market assumptions reflect the long-term capital market outlook. The assumptions for equity and fixed income investments are developed using a building-block approach, reflecting observable inflation information and interest rate information available in the fixed income markets. Long-term assumptions for other asset categories are based on historical results, current market characteristics and the professional judgment of our internal and external investment teams.

Assumed Health Care Cost Trend

The following summarizes the assumed health care cost trend rates.

	December 31,		
	2022	2021	2020
Health care cost trend rate assumed for the following year:			
Medical: Pre-65	6.60 %	5.80 %	6.00 %
Prescription drugs	8.90 %	6.40 %	7.00 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate):			
Medical: Pre-65	4.50 %	4.50 %	4.50 %
Prescription drugs	4.50 %	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate:			
Medical: Pre-65	2031	2030	2028
Prescription drugs	2031	2030	2028

Increases in the post-65 medical plan premium for the Marathon Petroleum Health Plan and the Marathon Petroleum Retiree Health Plan have been permanently eliminated.

Plan Investment Policies and Strategies

The investment policies for our pension plan assets reflect the funded status of the plans and expectations regarding our future ability to make further contributions. Long-term investment goals are to: (1) manage the assets in accordance with the legal requirements of all applicable laws; (2) diversify plan investments across asset classes to achieve an optimal balance between risk and return and between income and growth of assets through capital appreciation; and (3) source benefit payments primarily through existing plan assets and anticipated future returns.

The investment goals are implemented to manage the plans' funded status volatility and minimize future cash contributions. The asset allocation strategy will change over time in response to changes primarily in funded status, which is dictated by current and anticipated market conditions, the independent actions of our investment committee, required cash flows to and from the plans and other factors deemed appropriate. Such changes in asset allocation are intended to allocate additional assets to the fixed income asset class should the funded status improve. The fixed income asset class shall be invested in such a manner that its interest rate sensitivity correlates highly with that of the plans' liabilities. Other asset classes are intended to provide additional return with associated higher levels of risk. Investment performance and risk is measured and monitored on an ongoing basis through quarterly investment meetings and periodic asset and liability studies. At December 31, 2022, the primary plan's targeted asset allocation was 50 percent equity, private equity, real estate, and timber securities and 50 percent fixed income securities.

Fair Value Measurements

Plan assets are measured at fair value. The following provides a description of the valuation techniques employed for each major plan asset category at December 31, 2022 and 2021.

Cash and cash equivalents

Cash and cash equivalents include a collective fund serving as the investment vehicle for the cash reserves and cash held by third-party investment managers. The collective fund is valued at net asset value ("NAV") on a scheduled basis using a cost approach, and is considered a Level 2 asset. Cash and cash equivalents held by third-party investment managers are valued using a cost approach and are considered Level 2.

Equity

Equity investments includes common stock, mutual and pooled funds. Common stock investments are valued using a market approach, which are priced daily in active markets and are considered Level 1. Mutual and pooled equity funds are well diversified portfolios, representing a mix of strategies in domestic, international and emerging market strategies. Mutual funds are publicly registered, valued at NAV on a daily basis using a market approach and are considered Level 1 assets. Pooled funds are valued at NAV using a market approach and are considered Level 2.

Fixed Income

Fixed income investments include corporate bonds, U.S. dollar treasury bonds and municipal bonds. These securities are priced on observable inputs using a combination of market, income and cost approaches. These securities are considered Level 2 assets. Fixed income also includes a well diversified bond portfolio structured as a pooled fund. This fund is valued at NAV on a daily basis using a market approach and is considered Level 2. Other investments classified as Level 1 include mutual funds that are publicly registered, valued at NAV on a daily basis using a market approach.

Private Equity

Private equity investments include interests in limited partnerships which are valued using information provided by external managers for each individual investment held in the fund. These holdings are considered Level 3.

Real Estate

Real estate investments consist of interests in limited partnerships. These holdings are either appraised or valued using the investment manager's assessment of assets held. These holdings are considered Level 3.

Other

Other investments include two limited liability companies ("LLCs") with no public market. The LLCs were formed to acquire timberland in the northwest U.S. These holdings are either appraised or valued using the investment manager's assessment of assets held. These holdings are considered Level 3. Other investments classified as Level 1 include publicly traded depository receipts, while Level 2 include derivative transactions.

The following tables present the fair values of our defined benefit pension plans' assets, by level within the fair value hierarchy, as of December 31, 2022 and 2021.

(Millions of dollars)	December 31, 2022 Level 1	Level 2	Level 3	Total	December 31, 2021 Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ —	$ 3	$ —	$ 3	$ —	$ 47	$ —	$ 47
Equity:								
Common stocks	40	—	—	40	61	—	—	61
Mutual funds	104	—	—	104	170	—	—	170
Pooled funds	—	742	—	742	—	1,192	—	1,192
Fixed income:								
Corporate	—	582	—	582	—	800	—	800
Government	211	41	—	252	415	108	—	523
Pooled funds	—	79	—	79	—	192	—	192
Private equity	—	—	13	13	—	—	19	19
Real estate	—	—	14	14	—	—	17	17
Other	—	5	4	9	1	3	18	22
Total investments, at fair value	$ 355	$ 1,452	$ 31	$ 1,838	$ 647	$ 2,342	$ 54	$ 3,043

The following is a reconciliation of the beginning and ending balances recorded for plan assets classified as Level 3 in the fair value hierarchy:

(Millions of dollars)	2022 Private Equity	Real Estate	Other	2021 Private Equity	Real Estate	Other
Beginning balance	$ 19	$ 17	$ 18	$ 23	$ 20	$ 19
Actual return on plan assets:						
Realized	3	2	—	2	1	—
Unrealized	(4)	(2)	7	8	1	—
Purchases	—	1	—	—	—	—
Sales	(5)	(4)	(21)	(14)	(5)	(1)
Ending balance	$ 13	$ 14	$ 4	$ 19	$ 17	$ 18

Cash Flows

Contributions to defined benefit plans

Our funding policy with respect to the funded pension plans is to contribute amounts necessary to satisfy minimum pension funding requirements, including requirements of the Pension Protection Act of 2006, plus such additional, discretionary, amounts from time to time as determined appropriate by management. In 2022, we made contributions totaling $15 million to our funded pension plans. For 2023, we do not project any required funding, but we may make voluntary contributions to our funded pension plans at our discretion. Cash contributions to be paid from our general assets for the unfunded pension and postretirement plans are estimated to be approximately $7 million and $50 million, respectively, in 2023.

Estimated future benefit payments

The following gross benefit payments, which reflect expected future service, as appropriate, are expected to be paid in the years indicated.

(Millions of dollars)	Pension Benefits	Other Benefits
2023	$ 148	$ 50
2024	155	50
2025	165	50
2026	173	50
2027	175	50
2028 through 2032	1,010	258

Contributions to defined contribution plan

We also contribute to a defined contribution plan for eligible employees. Contributions to this plan totaled $167 million, $165 million and $180 million in 2022, 2021 and 2020, respectively.

Multiemployer Pension Plan

We contribute to one multiemployer defined benefit pension plan under the terms of a collective-bargaining agreement that covers some of our union-represented employees. The risks of participating in this multiemployer plan are different from single-employer plans in the following aspects:

- Assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If we choose to stop participating in the multiemployer plan, we may be required to pay that plan an amount based on the underfunded status of the plan, referred to as a withdrawal liability.

Our participation in this plan for 2022, 2021 and 2020 is outlined in the table below. The "EIN" column provides the Employee Identification Number for the plan. The most recent Pension Protection Act zone status available in 2022 and 2021 is for the plan's year ended December 31, 2021 and December 31, 2020, respectively. The zone status is based on information that we received from the plan and is certified by the plan's actuary. Among other factors, plans in the red zone are generally less than 65 percent funded. The "FIP/RP Status Pending/Implemented" column indicates a financial improvement plan or a rehabilitation plan has been implemented. The last column lists the expiration date of the collective-bargaining agreement to which the plan is subject. There have been no significant changes that affect the comparability of 2022, 2021 and 2020 contributions. Our portion of the contributions does not make up more than five percent of total contributions to the plan.

		Pension Protection Act Zone Status			MPC Contributions (*Millions of dollars*)				
Pension Fund	EIN	2022	2021	FIP/RP Status Pending/Implemented	2022	2021	2020	Surcharge Imposed	Expiration Date of Collective – Bargaining Agreement
Central States, Southeast and Southwest Areas Pension Plan[a]	366044243	Red	Red	Implemented	$ 5	$ 5	$ 5	No	January 31, 2024

(a) This agreement has a minimum contribution requirement of $338 per week per employee for 2023. A total of 258 employees participated in the plan as of December 31, 2022.

Multiemployer Health and Welfare Plan

We contribute to one multiemployer health and welfare plan that covers both active employees and retirees. Through the health and welfare plan, employees receive medical, dental, vision, prescription and disability coverage. Our contributions to this plan totaled $7 million, $7 million and $7 million for 2022, 2021 and 2020, respectively.

27. Share-Based Compensation

Description of the Incentive Plans

Our employees and non-employee directors are eligible to receive share, share-based and other types of awards under the Marathon Petroleum Corporation 2021 Incentive Compensation Plan ("MPC 2021 Plan"). The MPC 2021 Plan authorizes the Compensation and Organization Development Committee of our board of directors ("Committee") to grant nonqualified or incentive stock options, stock appreciation rights, share and share-based awards (including restricted stock and restricted stock unit awards), cash awards and performance awards to our employees and non-employee directors. The maximum number of shares of our common stock available for awards under the MPC 2021 Plan is 20.5 million shares. The MPC 2021 Plan became effective upon shareholder approval on April 28, 2021. Prior to that date, our employees and non-employee directors were eligible to receive share, share-based and other types of awards under the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan ("MPC 2012 Plan"), effective April 26, 2012, and prior to that date, the Marathon Petroleum Corporation 2011 Second Amended and Restated Incentive Compensation Plan ("MPC 2011 Plan"). Shares issued as a result of awards granted under these plans are funded through the issuance of new MPC common shares.

Share-Based Awards under the Plans

We expense all share-based payments to employees and non-employee directors based on the grant date fair value of the awards over the requisite service period, adjusted for estimated forfeitures.

Stock Options

Prior to 2021, we granted stock options to certain officer and non-officer employees under the MPC 2011 Plan and the MPC 2012 Plan. Stock options represent the right to purchase shares of our common stock at an exercise price equal to the closing price of our common stock on the date of grant. Stock options generally vest over a service period of three years and expire ten years after the grant date. We used the Black Scholes option-pricing model to estimate the fair value of stock options granted, which requires the input of subjective assumptions.

Restricted Stock and Restricted Stock Units

We grant restricted stock units to certain employees and to our non-employee directors. Prior to 2021, we granted restricted stock to certain employees and to our non-employee directors. In general, restricted stock and restricted stock units granted to employees vest over a requisite service period of three years. Restricted stock awards and restricted stock unit awards granted to officers prior to 2022 are subject to an additional one year holding period after the three-year vesting period. Restricted stock recipients have the right to vote such stock; however, dividends are accrued and when vested are payable at the dates specified in the awards. The non-vested shares are not transferable and are held by our transfer agent. Restricted stock units granted to non-employee directors are considered to vest immediately at the time of the grant for accounting purposes, as they are non-forfeitable, but are not issued until the director's departure from the board of directors. Restricted stock unit recipients do not have the right to vote any shares of stock and accrue dividend equivalents which when vested are payable at the dates specified in the awards. The fair values of restricted stock and restricted stock units are equal to the market price of our common stock on the grant date.

Performance Units and Performance Share Units

We grant performance share unit awards to certain officer employees. At grant, a performance share unit has a target value equal to the MPC common stock average 30-day closing price prior to the grant date. The actual payout value of a performance share unit is based on company performance (which can range from 0% to 200%) during the three calendar year period beginning in the year of grant, multiplied by MPC's closing share price on the date the Committee certifies performance. Performance share units have a vesting service period beginning on the grant date and ending on the last day of the three-year performance period. Company performance for purposes of payout will be determined by the relative ranking of the total shareholder return ("TSR") of MPC common stock over the three-year performance period compared to the TSR of a select group of peer companies and the Standard & Poor's 500 Index and the Alerian MLP Index over the performance period, as well as the median of MPC's compensation reference group. These awards settle 100 percent in cash and are accounted for as liability awards and recorded at fair value with a mark-to-market adjustment made each quarter.

We also grant performance share unit awards to certain non-officer employees. These performance share unit awards operate as explained above for awards made to certain officer employees, but the awards vest in one-third increments on December 31 of the first, second and third calendar years of the three calendar year performance period.

No performance share unit awards were granted prior to 2021. Prior to 2021, we granted performance unit awards to certain officer employees under the MPC 2012 Plan. Performance units are dollar-denominated. The target value of all performance units is $1.00, with actual payout up to $2.00 per unit (up to 200 percent of target). Performance unit awards have a 36-month requisite service period. The payout value of these awards is determined by the relative ranking of the TSR of MPC common stock compared to the TSR of a select group of peer companies, as well as the Standard & Poor's 500 Energy Index fund over an average of four measurement periods. These awards are settled 25 percent in MPC common stock and 75 percent in cash. The number of shares actually distributed is determined as 25 percent of the final payout divided by the closing price of MPC common stock on the day the Committee certifies the final TSR rankings, or the next trading day if the certification is made outside of normal trading hours. The performance units paying out in cash are accounted for as liability awards and recorded at fair value with a mark-to-market adjustment made each quarter. The performance units that settle in shares are accounted for as share awards and do not receive dividend equivalents.

Total Share-Based Compensation Expense

The following table reflects activity related to our share-based compensation arrangements, including the converted awards related to the acquisition of Andeavor:

(Millions of dollars)	2022	2021	2020
Share-based compensation expense	$ 153	$ 88	$ 100
Tax benefit recognized on share-based compensation expense	37	22	25
Cash received by MPC upon exercise of stock option awards	243	106	11
Tax benefit received for tax deductions for stock awards exercised	53	13	16

Stock Option Awards

The following is a summary of our common stock option activity in 2022:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms *(in years)*	Aggregate Intrinsic Value *(Millions of dollars)*
Outstanding at December 31, 2021	7,795,036	$ 46.23		
Exercised	(5,267,328)	46.16		
Forfeited or expired	(38,474)	20.87		
Outstanding at December 31, 2022	2,489,234	46.78		
Vested and expected to vest at December 31, 2022	2,488,962	46.78	4.1	$ 173
Exercisable at December 31, 2022	2,000,853	51.77	3.3	129

The intrinsic value of options exercised by MPC employees during 2022, 2021 and 2020 was $247 million, $88 million and $25 million, respectively.

As of December 31, 2022, unrecognized compensation cost related to stock option awards was $1 million, which is expected to be recognized over a weighted average period of 0.2 years.

Restricted Stock and Restricted Stock Unit Awards

The following is a summary of restricted stock and restricted stock unit award activity of our common stock in 2022:

	Restricted Stock		Restricted Stock Units	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Unvested at December 31, 2021	194,629	$ 60.95	2,313,919	$ 35.84
Granted	—	—	653,378	75.81
Vested	(191,833)	60.98	(1,026,720)	34.24
Forfeited	(2,105)	60.92	(154,427)	47.64
Unvested at December 31, 2022	691	54.60	1,786,150	50.36

The following is a summary of the values related to restricted stock and restricted stock unit awards held by MPC employees and non-employee directors:

	Restricted Stock		Restricted Stock Units	
	Intrinsic Value of Awards Vested During the Period *(Millions of dollars)*	Weighted Average Grant Date Fair Value of Awards Granted During the Period	Intrinsic Value of Awards Vested During the Period *(Millions of dollars)*	Weighted Average Grant Date Fair Value of Awards Granted During the Period
2022	$ 17	$ —	$ 99	$ 75.81
2021	20	—	90	55.27
2020	18	56.49	59	22.82

As of December 31, 2022, unrecognized compensation cost related to restricted stock awards was less than $1 million, which is expected to be recognized over a weighted average period of 0.1 years. Unrecognized compensation cost related to restricted stock unit awards was $54 million, which is expected to be recognized over a weighted average period of 1.18 years.

Performance Unit Awards

The following table presents a summary of the 2022 activity for performance unit awards to be settled in shares:

	Number of Units	Weighted Average Grant Date Fair Value
Unvested at December 31, 2021	6,255,283	$ 0.78
Vested	(6,221,223)	0.77
Forfeited	(34,060)	0.89
Unvested at December 31, 2022	—	—

The number of shares that would be issued upon target vesting, using the closing price of our common stock on December 31, 2022 would be 26,685 shares.

Performance units to be settled in MPC shares have a grant date fair value calculated using a Monte Carlo valuation model, which requires the input of subjective assumptions. The following table provides a summary of these assumptions:

	2020
Risk-free interest rate	0.9 %
Look-back period (in years)	2.8
Expected volatility	30.4 %
Grant date fair value of performance units granted	$ 0.89

The risk-free interest rate for the remaining performance period as of the grant date is based on the U.S. Treasury yield curve in effect at the time of the grant. The look-back period reflects the remaining performance period at the grant date. The assumption for the expected volatility of our stock price reflects the average MPC common stock historical volatility.

MPLX Awards

Compensation expense for awards of MPLX units are not material to our consolidated financial statements for 2022.

28. Leases

Lessee

We lease a wide variety of facilities and equipment including land and building space, office and field equipment, storage facilities and transportation equipment. Our remaining lease terms range from less than one year to 96 years. Most long-term leases include renewal options ranging from less than one year to 49 years and, in certain leases, also include purchase options. The lease term included in the measurement of right of use assets and lease liabilities includes options to extend or terminate our leases that we are reasonably certain to exercise.

Under ASC 842, the components of lease cost are shown below. Lease costs for operating leases are recognized on a straight line basis and are reflected in the income statement based on the leased asset's use. Lease costs for finance leases are reflected in depreciation and amortization and in net interest and other financial costs.

(Millions of dollars)	2022	2021	2020
Finance lease cost:			
Amortization of right of use assets	$ 81	$ 78	$ 72
Interest on lease liabilities	29	31	35
Operating lease cost	490	565	658
Variable lease cost	59	62	60
Short-term lease cost	772	446	649
Total lease cost	$ 1,431	$ 1,182	$ 1,474

Supplemental consolidated balance sheet data related to leases were as follows:

	December 31,	
(Millions of dollars)	2022	2021
Operating leases		
Assets		
Right of use assets	$ 1,214	$ 1,372
Liabilities		
Operating lease liabilities	$ 368	$ 438
Long-term operating lease liabilities	841	927
Total operating lease liabilities	$ 1,209	$ 1,365
Weighted average remaining lease term (in years)	5.1	5.0
Weighted average discount rate	3.55 %	3.11 %
Finance leases		
Assets		
Property, plant and equipment, gross	$ 818	$ 815
Less accumulated depreciation	412	336
Property, plant and equipment, net	$ 406	$ 479
Liabilities		
Debt due within one year	$ 79	$ 73
Long-term debt	451	525
Total finance lease liabilities	$ 530	$ 598
Weighted average remaining lease term (in years)	9.9	10.3
Weighted average discount rate	5.09 %	5.04 %

As of December 31, 2022, maturities of lease liabilities for operating lease obligations and finance lease obligations having initial or remaining non-cancellable lease terms in excess of one year are as follows:

(Millions of dollars)	Operating	Finance
2023	$ 403	$ 104
2024	308	87
2025	228	78
2026	140	75
2027	72	59
2028 and thereafter	172	268
Gross lease payments	1,323	671
Less: imputed interest	114	141
Total lease liabilities	$ 1,209	$ 530

Lessor

MPLX is considered to be the lessor under several operating lease agreements in accordance with GAAP related to certain fee-based natural gas transportation and processing agreements in the Marcellus and Southern Appalachia region. The primary term of these agreements expire between 2026 and 2036, however, these contracts either have renewal options or will continue thereafter on a year-to-year basis until terminated by either party.

MPLX did not elect to use the practical expedient to combine lease and non-lease components for lessor arrangements. The tables below represent the portion of the contract allocated to the lease component based on relative standalone selling price. MPLX elected the practical expedient to carry forward historical classification conclusions until a modification of an existing agreement occurs. Once a modification occurs, the amended agreement is required to be assessed under ASC 842 to determine whether a reclassification of the lease is required.

During the third quarter of 2022, the approved expansion of a gathering and compression system triggered the first assessment of a third party agreement under ASC 842. As a result of the assessment during the period, the lease was reclassified from an operating lease to a sales-type lease. Accordingly, the underlying property, plant and equipment of $745 million and associated deferred revenue of $277 million were derecognized. The present value of the future lease payments of $914 million and the unguaranteed residual value of $63 million were recorded as the net investment in the lease within receivables and other noncurrent assets. This resulted in a gain of approximately $509 million, which was recorded as a net gain on disposal of assets in the consolidated statements of income. This transaction was a non-cash transaction.

Lease revenues are included in sales and other operating revenues on the consolidated statements of income. Lease revenues were as follows:

(Millions of dollars)	2022	2021	2020
Operating leases:			
Rental income	$ 327	$ 376	$ 398
Sales-type leases:			
Interest income (Sales-type rental revenue-fixed minimum)	46	—	—
Interest income (Revenue from variable lease payments)	16	—	—
Sales-type lease revenue	$ 62	$ —	$ —

The following is a schedule of minimum future rentals on the non-cancelable operating leases as of December 31, 2022:

(Millions of dollars)	
2023	$ 97
2024	95
2025	64
2026	37
2027	16
2028 and thereafter	21
Total minimum future rentals	$ 330

Annual minimum undiscounted lease payment receipts under our sales-type leases were as follows as of December 31, 2022:

(Millions of dollars)	
2023	$ 169
2024	156
2025	146
2026	137
2027	128
2028 and thereafter	970
Total minimum future rentals	1,706
Less: present value discount	765
Lease receivables[a]	$ 941
Current lease receivables[b]	$ 98
Long-term lease receivables[c]	843
Unguaranteed residual assets	66
Total sales-type lease assets	$ 1,007

[a] This amount does not include the unguaranteed residual assets.

[b] Presented in receivables, net on the consolidated balance sheets.

[c] Presented in other noncurrent assets on the consolidated balance sheets.

Capital expenditures related to assets subject to sales-type lease arrangements were $27 million for the year ended December 31, 2022. These amounts are reflected as additions to property, plant and equipment in the consolidated statements of cash flows.

The following schedule summarizes our investment in assets held under operating lease by major classes as of December 31, 2022 and 2021:

	December 31,	
(Millions of dollars)	2022	2021
Gathering and transportation	$ 94	$ 991
Processing and fractionation	973	867
Terminals	128	128
Land, building and other	10	15
Property, plant and equipment	1,205	2,001
Less accumulated depreciation	330	523
Total property, plant and equipment, net	$ 875	$ 1,478

29. Commitments and Contingencies

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. Some of these matters are discussed below. For matters for which we have not recorded a liability, we are unable to estimate a range of possible loss because the issues involved have not been fully developed through pleadings, discovery or court proceedings. However, the ultimate resolution of some of these contingencies could, individually or in the aggregate, be material.

Environmental Matters

We are subject to federal, state, local and foreign laws and regulations relating to the environment. These laws generally provide for control of pollutants released into the environment and require responsible parties to undertake remediation of hazardous waste disposal sites and certain other locations including presently or formerly owned or operated retail marketing sites. Penalties may be imposed for noncompliance.

At December 31, 2022 and 2021, accrued liabilities for remediation totaled $387 million and $401 million, respectively. It is not presently possible to estimate the ultimate amount of all remediation costs that might be incurred or the penalties, if any, that may be imposed. Receivables for recoverable costs from certain states, under programs to assist companies in clean-up efforts related to underground storage tanks at presently or formerly owned or operated retail marketing sites, were $5 million and $6 million at December 31, 2022 and 2021, respectively.

Governmental and other entities in various states have filed climate-related lawsuits against numerous energy companies, including MPC. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. We are currently subject to such proceedings in federal or state courts in California, Delaware, Maryland, Hawaii, Rhode Island and South Carolina. Similar lawsuits may be filed in other jurisdictions. At this early stage, the ultimate outcome of these matters remain uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined.

We are involved in a number of environmental enforcement matters arising in the ordinary course of business. While the outcome and impact on us cannot be predicted with certainty, management believes the resolution of these environmental matters will not, individually or collectively, have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Asset Retirement Obligations

Our short-term asset retirement obligations were $27 million and $14 million at December 31, 2022 and 2021, respectively, and are included in other current liabilities in our consolidated balance sheets. Our long-term asset retirement obligations were $186 million and $187 million at December 31, 2022 and 2021, respectively, which are included in deferred credits and other liabilities in our consolidated balance sheets.

Other Legal Proceedings

In July 2020, Tesoro High Plains Pipeline Company, LLC (“THPP”), a subsidiary of MPLX, received a Notification of Trespass Determination from the Bureau of Indian Affairs (“BIA”) relating to a portion of the Tesoro High Plains Pipeline that crosses the Fort Berthold Reservation in North Dakota. The notification demanded the immediate cessation of pipeline operations and assessed trespass damages of approximately $187 million. After subsequent appeal proceedings and in compliance with a new order issued by the BIA, in December 2020, THPP paid approximately $4 million in assessed trespass damages and ceased use of the portion of the pipeline that crosses the property at issue. In March 2021, the BIA issued an order purporting to vacate the BIA's prior orders related to THPP’s alleged trespass and direct the Regional Director of the BIA to reconsider the issue of THPP’s alleged trespass and issue a new order. In April 2021, THPP filed a lawsuit in the District of North Dakota against the United States of America, the U.S. Department of the Interior and the BIA (together, the “U.S. Government Parties”) challenging the March 2021 order purporting to vacate all previous orders related to THPP's alleged trespass. On February 8, 2022, the U.S. Government Parties filed their answer and counterclaims to THPP's suit claiming THPP is in continued trespass with respect to the pipeline and seek disgorgement of pipeline profits from June 1, 2013 to present, removal of the pipeline and remediation. We intend to vigorously defend ourselves against these counterclaims.

We are also a party to a number of other lawsuits and other proceedings arising in the ordinary course of business. While the ultimate outcome and impact to us cannot be predicted with certainty, we believe that the resolution of these other lawsuits and proceedings will not, individually or collectively, have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Guarantees

We have provided certain guarantees, direct and indirect, of the indebtedness of other companies. Under the terms of most of these guarantee arrangements, we would be required to perform should the guaranteed party fail to fulfill its obligations under the specified arrangements. In addition to these financial guarantees, we also have various performance guarantees related to specific agreements.

Guarantees related to indebtedness of equity method investees

LOOP and LOCAP

MPC and MPLX hold interests in an offshore oil port, LOOP, and MPLX holds an interest in a crude oil pipeline system, LOCAP. Both LOOP and LOCAP have secured various project financings with throughput and deficiency agreements. Under the agreements, MPC, as a shipper, is required to advance funds if the investees are unable to service their debt. Any such advances are considered prepayments of future transportation charges. The duration of the agreements varies but tend to follow the terms of the underlying debt, which extend through 2037. Our maximum potential undiscounted payments under these agreements for the debt principal totaled $171 million as of December 31, 2022.

Dakota Access Pipeline

MPLX holds a 9.19 percent indirect interest in a joint venture ("Dakota Access") that owns and operates the Dakota Access Pipeline and Energy Transfer Crude Oil Pipeline projects, collectively referred to as the Bakken Pipeline system or DAPL. In 2020, the U.S. District Court for the District of Columbia (the "D.D.C.") ordered the U.S. Army Corps of Engineers ("Army Corps"), which granted permits and an easement for the Bakken Pipeline system, to prepare an environmental impact statement ("EIS") relating to an easement under Lake Oahe in North Dakota. The D.D.C. later vacated the easement. The Army Corps expects to release a draft EIS in 2023.

In May 2021, the D.D.C. denied a renewed request for an injunction to shut down the pipeline while the EIS is being prepared. In June 2021, the D.D.C. issued an order dismissing without prejudice the tribes' claims against the Dakota Access Pipeline. The litigation could be reopened or new litigation challenging the EIS, once completed, could be filed. The pipeline remains operational.

MPLX has entered into a Contingent Equity Contribution Agreement whereby it, along with the other joint venture owners in the Bakken Pipeline system, has agreed to make equity contributions to the joint venture upon certain events occurring to allow the entities that own and operate the Bakken Pipeline system to satisfy their senior note payment obligations. The senior notes were issued to repay amounts owed by the pipeline companies to fund the cost of construction of the Bakken Pipeline system. If the pipeline were temporarily shut down, MPLX would have to contribute its 9.19 percent pro rata share of funds required to pay interest accruing on the notes and any portion of the principal that matures while the pipeline is shutdown. MPLX also expects to contribute its 9.19 percent pro rata share of any costs to remediate any deficiencies to reinstate the permit and/or return the pipeline into operation. If the vacatur of the easement permit results in a permanent shutdown of the pipeline, MPLX would have to contribute its 9.19 percent pro rata share of the cost to redeem the bonds (including the 1% redemption premium required pursuant to the indenture governing the notes) and any accrued and unpaid interest. As of December 31, 2022, our maximum potential undiscounted payments under the Contingent Equity Contribution Agreement were approximately $170 million.

Crowley Blue Water Partners

In connection with our 50 percent indirect interest in Crowley Blue Water Partners, we have agreed to provide a conditional guarantee of up to 50 percent of its outstanding debt balance in the event there is no charter agreement in place with an investment grade customer for the entity's three vessels as well as other financial support in certain circumstances. As of December 31, 2022, our maximum potential undiscounted payments under this arrangement was $101 million.

Marathon Oil indemnifications

The separation and distribution agreement and other agreements with Marathon Oil to effect our spinoff provide for cross-indemnities between Marathon Oil and us. In general, Marathon Oil is required to indemnify us for any liabilities relating to Marathon Oil's historical oil and gas exploration and production operations, oil sands mining operations and integrated gas operations, and we are required to indemnify Marathon Oil for any liabilities relating to Marathon Oil's historical refining, marketing and transportation operations. The terms of these indemnifications are indefinite and the amounts are not capped.

Other guarantees

We have entered into other guarantees with maximum potential undiscounted payments totaling $160 million as of December 31, 2022, which primarily consist of a commitment to contribute cash to an equity method investee for certain catastrophic events, in lieu of procuring insurance coverage, a commitment to fund a share of the bonds issued by a government entity for construction of public utilities in the event that other industrial users of the facility default on their utility payments, a commitment to pay a termination fee on a supply agreement if terminated during the initial term, and leases of assets containing general lease indemnities and guaranteed residual values.

General guarantees associated with dispositions

Over the years, we have sold various assets in the normal course of our business. Certain of the related agreements contain performance and general guarantees, including guarantees regarding inaccuracies in representations, warranties, covenants and agreements, and environmental and general indemnifications that require us to perform upon the occurrence of a triggering event or condition. These guarantees and indemnifications are part of the normal course of selling assets. We are typically not able to calculate the maximum potential amount of future payments that could be made under such contractual provisions because of the variability inherent in the guarantees and indemnities. Most often, the nature of the guarantees and indemnities is such that there is no appropriate method for quantifying the exposure because the underlying triggering event has little or no past experience upon which a reasonable prediction of the outcome can be based.

Contractual Commitments and Contingencies

At December 31, 2022, our contractual commitments to acquire property, plant and equipment totaled $289 million. Our contractual commitments to acquire property, plant and equipment totaled $565 million at December 31, 2021, primarily consisting of refining projects which includes the conversion of the Martinez refinery to a renewable diesel facility.

Certain natural gas processing and gathering arrangements require us to construct natural gas processing plants, natural gas gathering pipelines and NGL pipelines and contain certain fees and charges if specified construction milestones are not achieved for reasons other than force majeure. In certain cases, certain producer customers may have the right to cancel the processing arrangements if there are significant delays that are not due to force majeure.

30. Subsequent Events

Incremental $5 Billion Share Repurchase Authorization

On January 31, 2023, we announced that our board of directors approved an incremental $5.0 billion share repurchase authorization. The authorization has no expiration date. We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated share repurchases, tender offers or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing of repurchases will depend upon several factors, including market and business conditions, and repurchases may be discontinued at any time.

MPLX Senior Notes

On February 9, 2023, MPLX issued $1.6 billion aggregate principal amount of senior notes in a public offering, consisting of $1.1 billion aggregate principal amount of 5.00% senior notes due March 2033 and $500 million principal amount of 5.65% senior notes due March 2053.

On February 15, 2023, MPLX used $600 million of the net proceeds to redeem all of the outstanding Series B preferred units. MPLX also provided notice to redeem all of MPLX’s and MarkWest’s $1.0 billion 4.50% senior notes due July 2023.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

An evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended) was carried out under the supervision and with the participation of our management, including our chief executive officer and chief financial officer. Based upon that evaluation, the chief executive officer and chief financial officer concluded that the design and operation of these disclosure controls and procedures were effective as of December 31, 2022, the end of the period covered by this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

During the quarter ended December 31, 2022, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None

Item 9C. Disclosures Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information concerning our executive officers is included in Part I, Item 1 of this Annual Report on Form 10-K. Information concerning our directors is incorporated by reference to “Corporate Governance—Proposal 1. Election of Directors” in our Proxy Statement for the 2023 Annual Meeting of Shareholders, to be filed with the SEC within 120 days of December 31, 2022 (the “Proxy Statement”).

Our Code of Business Conduct, which applies to all of our directors, officers and employees, defines our expectations for ethical decision-making, accountability and responsibility. Our Code of Ethics for Senior Financial Officers, which is specifically applicable to our President and Chief Executive Officer, Executive Vice President and Chief Financial Officer, Senior Vice President and Controller, Vice President and Treasurer, and other leaders performing similar functions, affirms the principle that the honesty, integrity and sound judgment of our senior executives with responsibility for preparation and certification of our financial statements is essential to the proper functioning and success of our company. These codes are available on our website at www.marathonpetroleum.com/Investors/Corporate-Governance/. We would post on our website any amendments to, or waivers from, either of these codes requiring disclosure under applicable rules within four business days following any such amendment or waiver. Information contained on our website is not incorporated into this Annual Report on Form 10-K or other securities filings.

The other information required by this Item is incorporated by reference to “Corporate Governance—Board Leadership and Function—Board Committees” in our Proxy Statement.

Item 11. Executive Compensation

Information required by this Item is incorporated by reference to “Executive Compensation,” “Executive Compensation—Executive Compensation Tables” and “Corporate Governance—Director Compensation” in our Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information concerning security ownership of certain beneficial owners and management required by this Item is incorporated by reference to “Other Information—Stock Ownership Information” in our Proxy Statement.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2022 with respect to shares of our common stock that may be issued under the MPC 2021 Plan, the MPC 2012 Plan, the MPC 2011 Plan and the Andeavor Plans:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights[(a)]	Weighted-average exercise price of outstanding options, warrants and rights[(b)]	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)[(c)]
Equity compensation plans approved by stockholders	4,563,076	$ 46.78	19,816,073
Equity compensation plan not approved by stockholders	—	—	—
Total	4,563,076	N/A	19,816,073

(a) Includes the following:

1) 2,489,234 stock options granted pursuant to the MPC 2012 Plan and not forfeited, cancelled or expired as of December 31, 2022.
2) 2,020,472 restricted stock units granted pursuant to the MPC 2021 Plan, the MPC 2012 Plan and the MPC 2011 Plan for shares unissued and not forfeited, cancelled or expired as of December 31, 2022. The amounts in column (a) do not include 404 restricted stock units granted under the Andeavor Plans and not forfeited, cancelled or expired as of December 31, 2022.
3) 53,370 shares as the maximum potential number of shares that could be issued in settlement of performance units outstanding as of December 31, 2022 pursuant to the MPC 2012 Plan, based on the closing price of our common stock on December 31, 2022 of $116.39 per share. The number of shares reported for this award vehicle may overstate dilution. See Note 27 for more information on performance unit awards granted under the MPC 2012 Plan.

(b) Restricted stock, restricted stock units and performance units are not taken into account in the weighted-average exercise price as such awards have no exercise price.

(c) Reflects the shares available for issuance pursuant to the MPC 2021 Plan. All granting authority under the MPC 2012 Plan was revoked following the approval of the MPC 2021 Plan by shareholders on April 28, 2021, all granting authority under the MPC 2011 Plan was revoked following the approval of the MPC 2012 Plan by shareholders on April 25, 2012, and all granting power under the Andeavor Plans was revoked at the time of the Andeavor Merger. Shares related to (i) grants made pursuant to the MPC 2012 Plan that are forfeited, cancelled or expire unexercised become immediately available for issuance under the MPC 2021 Plan (ii) shares withheld for taxes related to vestings under the MPC 2012 Plan become immediately available for issuance under the MPC 2021 Plan.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information required by this Item is incorporated by reference to “Other Information—Related Party Transactions” and “Corporate Governance—Board Composition and Director Selection—Director Independence” in our Proxy Statement.

Item 14. Principal Accountant Fees and Services

Information required by this Item is incorporated by reference to “Audit Matters—Auditor Fees and Services” in our Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

A. Documents Filed as Part of the Report

1. Financial Statements (see Part II, Item 8. of this Annual Report on Form 10-K regarding financial statements)

2. Financial Statement Schedules

Financial statement schedules required under SEC rules but not included in this Annual Report on Form 10-K are omitted because they are not applicable or the required information is contained in the consolidated financial statements or notes thereto.

3. Exhibits:

		Incorporated by Reference					
Exhibit Number	Exhibit Description	Form	Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
2	**Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession**						
2.1 †	Separation and Distribution Agreement, dated as of May 25, 2011, among Marathon Oil Corporation, Marathon Oil Company and Marathon Petroleum Corporation	10	2.1	5/26/2011	001-35054		
2.2 †	Purchase and Sale Agreement, dated as of August 2, 2020, by and between MPC, the MPC subsidiaries party thereto and 7-Eleven, Inc.	8-K	2.1	8/3/2020	001-35054		
2.3	Amendment to Purchase and Sale Agreement, dated as of October 16, 2020, by and among MPC, the MPC subsidiaries party thereto and 7-Eleven, Inc.	10-K	2.7	2/26/2021	001-35054		
2.4 †	Amendment No. 2 to Purchase and Sale Agreement, dated as of May 14, 2021, by and among the Company, Sellers and Purchaser	8-K	2.3	5/14/2021	001-35054		
3	**Articles of Incorporation and Bylaws**						
3.1	Restated Certificate of Incorporation of Marathon Petroleum Corporation, dated April 29, 2022	8-K	3.2	5/2/2022	001-35054		
3.2	Amended and Restated Bylaws of Marathon Petroleum Corporation, dated October 27, 2021	10-Q	3.2	11/2/2021	001-35054		
3.3	Certificate of Amendment, dated April 29, 2022, to the Restated Certificate of Incorporation of Marathon Petroleum Corporation	8-K	3.1	5/2/2022	001-35054		
4	**Instruments Defining the Rights of Security Holders, Including Indentures, and Description of Registrant's Securities**						
Pursuant to Item 601(b)(4) of Regulation S-K, certain instruments with respect to long-term debt issues have been omitted where the amount of securities authorized under such instruments does not exceed 10 percent of the total consolidated assets of the Registrant. The Registrant hereby agrees to furnish a copy of any such instrument to the Securities and Exchange Commission upon its request.							
4.1	Indenture, dated as of February 1, 2011, between Marathon Petroleum Corporation and The Bank of New York Mellon Trust Company, N.A., as Trustee	10	4.1	3/29/2011	001-35054		
4.2	Indenture, dated February 12, 2015, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee	8-K	4.1	2/12/2015	001-35714		
4.3	Description of Securities					X	
10	**Material Contracts**						
10.1	Omnibus Agreement, dated as of October 31, 2012, among Marathon Petroleum Corporation, Marathon Petroleum Company LP, MPL Investment LLC, MPLX Operations LLC, MPLX Terminal and Storage LLC, MPLX Pipe Line Holdings LP, Marathon Pipe Line LLC, Ohio River Pipe Line LLC, MPLX LP and MPLX GP LLC	8-K	10.2	11/6/2012	001-35054		

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.2 *	Marathon Petroleum Corporation Second Amended and Restated 2011 Incentive Compensation Plan	S-3	4.3	12/7/2011	333-175286		
10.3 *	Marathon Petroleum Corporation Policy for Recoupment of Annual Cash Bonus Amounts	10-K	10.10	2/29/2012	001-35054		
10.4 *	Marathon Petroleum Amended and Restated Excess Benefit Plan	10-K	10.14	2/24/2017	001-35054		
10.5 *	Marathon Petroleum Amended and Restated Deferred Compensation Plan	10-K	10.13	2/29/2012	001-35054		
10.6*	Marathon Petroleum Corporation Executive Tax, Estate, and Financial Planning Program	10-K	10.14	2/29/2012	001-35054		
10.7 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Restricted Stock Unit Award Agreement – Non-Employee Director	10-K	10.22	2/29/2012	001-35054		
10.8 *	Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefits Plan	10-K	10.21	2/28/2018	001-35054		
10.9 *	MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.32	2/28/2013	001-35054		
10.10 *	First Amendment to the Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan	10-Q	10.1	8/3/2015	001-35054		
10.11 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement - Officer	10-Q	10.3	5/2/2016	001-35054		
10.12 *	MPLX LP Executive Change in Control Severance Benefits Plan	10-Q	10.4	10/30/2017	001-35054		
10.13 *	MPLX LP 2018 Incentive Compensation Plan	8-K	10.1	3/5/2018	001-35714		
10.14 *	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors, as amended and restated January 1, 2019	10-K	10.75	2/28/2019	001-35054		
10.15 *	MPLX LP 2018 Incentive Compensation Plan MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.86	2/28/2019	001-35054		
10.16 *	Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-K	10.87	2/28/2019	001-35054		
10.17 *	First Amendment to the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-K	10.84	2/28/2020	001-35054		
10.18 *	Nonqualified Stock Option Award Agreement - Officer	10-Q	10.2	5/9/2019	001-35054		
10.19 *	Form of 2020 Officer RSU Award Agreement	10-Q	10.2	5/7/2020	001-35054		
10.20 *	Form of 2020 Officer Stock Option Award Agreement	10-Q	10.3	5/7/2020	001-35054		
10.21 *	Form of 2020 MPLX LP Phantom Unit Award Agreement - MPC Officer	10-Q	10.5	5/7/2020	001-35054		
10.22 *	Form of MPLX LP Performance Unit Award Agreement 2020-2022 Performance Cycle - MPC Officer	10-Q	10.6	5/7/2020	001-35054		
10.23*	Aircraft Time Sharing Agreement, dated as of December 29, 2020, by and between Marathon Petroleum Company LP and Michael J. Hennigan	10-K	10.67	2/26/2021	001-35054		
10.24 *	Form of 2021 MPC Officer RSU Award Agreement	10-K	10.69	2/26/2021	001-35054		
10.25 *	Form of 2021 MPC Performance Share Unit Award Agreement 2021 - 2023 Performance Cycle	10-K	10.70	2/26/2021	001-35054		
10.26 *	Form of 2021 MPLX LP Phantom Unit Award Agreement - MPC Officer	10-K	10.71	2/26/2021	001-35054		
10.27 *	2021 Marathon Petroleum Annual Cash Bonus Program	10-K	10.72	2/26/2021	001-35054		
10.28 *	Marathon Petroleum Executive Deferred Compensation Plan, effective January 1, 2021	10-K	10.73	2/26/2021	001-35054		
10.29 *	Marathon Petroleum Executive Deferred Compensation Plan Adoption Agreement, effective January 1, 2021	10-K	10.74	2/26/2021	001-35054		

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
10.30 *	Form of 2021 MPC Restricted Stock Unit Award – Broad-Based Employees	10-K	10.75	2/26/2021	001-35054		
10.31 *	Form of 2021 MPC Performance Share Unit Award Agreement – 2021-2023 Performance Cycle – Broad-Based Employees	10-K	10.76	2/26/2021	001-35054		
10.32 *	Marathon Petroleum Corporation 2021 Incentive Compensation Plan	8-K	10.1	5/4/2021	001-35054		
10.33 *	Form of 2021 MPC Officer RSU Award Agreement - 2021 Plan	10-Q	10.1	11/2/2021	001-35054		
10.34 *	Form of 2022 MPC Officer Performance Unit Award Agreement – 2022-2024 Performance Cycle	10-K	10.64	2/24/2022	001-35054		
10.35 *	CEO Nonqualified Stock Option Award Agreement, as Amended	10-K	10.65	2/24/2022	001-35054		
10.36 *	CEO Restricted Stock Unit Award Agreement	10-K	10.66	2/24/2022	001-35054		
10.37 *	CEO Performance Unit Award Agreement – 2020-2022 Performance Cycle, as Amended	10-K	10.67	2/24/2022	001-35054		
10.38 *	CEO Restricted Stock Unit Award Agreement, as Amended	10-K	10.68	2/24/2022	001-35054		
10.39 *	2022 Marathon Petroleum Annual Cash Bonus Program	10-K	10.69	2/24/2022	001-35054		
10.40*	Form of 2022 MPC Officer RSU Award Agreement – 1-year Cliff Vesting	10-Q	10.1	5/3/2022	001-35054		
10.41*	Form of 2022 MPC Officer RSU Award Agreement – 2-year Cliff Vesting	10-Q	10.2	5/3/2022	001-35054		
10.42*	Form of 2022 MPC Officer RSU Award Agreement – 3-year Cliff Vesting	10-Q	10.3	5/3/2022	001-35054		
10.43*	Form of 2022 MPC Officer RSU Award Agreement – 2-year Pro Rata Vesting	10-Q	10.4	5/3/2022	001-35054		
10.44*	Form of 2022 MPC Officer RSU Award Agreement – 3-year Pro Rata Vesting	10-Q	10.5	5/3/2022	001-35054		
10.45	Revolving Credit Agreement, dated as of July 7, 2022, by and among Marathon Petroleum Corporation, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, BofA Securities, Inc., Citibank, N.A., Mizuho Bank, Ltd., MUFG Bank, Ltd., RBC Capital Markets, and TD Securities (USA) LLC, as joint lead arrangers and joint bookrunners, Wells Fargo Bank, National Association, as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citibank, N.A., Mizuho Bank, Ltd., MUFG Bank, Ltd., Royal Bank of Canada and The Toronto-Dominion Bank, New York Branch, as documentation agents, and the other lenders and issuing banks that are parties thereto	8-K	10.1	7/12/2022	001-35054		
10.46	Revolving Credit Agreement, dated as of July 7, 2022, by and among MPLX LP, as borrower, Wells Fargo Bank, National Association, as administrative agent, each of Wells Fargo Securities, LLC, JPMorgan Chase Bank, N.A., Barclays Bank PLC, BofA Securities, Inc., Citibank, N.A., Mizuho Bank, Ltd., MUFG Bank, Ltd., RBC Capital Markets and TD Securities (USA) LLC, as joint lead arrangers and joint bookrunners, JPMorgan Chase Bank, N.A., as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citibank, N.A., Mizuho Bank, Ltd., MUFG Bank, Ltd., Royal Bank of Canada and The Toronto-Dominion Bank, New York Branch, as documentation agents, and the other lenders and issuing banks that are parties thereto	8-K	10.2	7/12/2022	001-35054		
10.47*	2023 Marathon Petroleum Annual Cash Bonus Program					X	
10.48*	Form of 2023 MPC Officer Performance Share Unit Award Agreement – 2023-2025 Performance Period					X	

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.49*	Form of 2023 MPC Officer RSU Award Agreement - 2021 Plan					X	
10.50*	Amended and Restated Marathon Petroleum Thrift Plan					X	
10.51*	Marathon Petroleum Excess Benefit Plan Amendment					X	
10.52*	Form of 2023 MPLX Phantom Unit Award Agreement					X	
21.1	List of Subsidiaries					X	
23.1	Consent of Independent Registered Public Accounting Firm					X	
24.1	Power of Attorney of Directors and Officers of Marathon Petroleum Corporation					X	
31.1	Certification of Chief Executive Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
31.2	Certification of Chief Financial Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.						X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.						X
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded with the Inline XBRL document.					X	
101.SCH	Inline XBRL Taxonomy Extension Schema Document.					X	
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.					X	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.					X	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.					X	
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.					X	
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).						

† The exhibits and schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K and will be provided to the Securities and Exchange Commission upon request.

* Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the Registrant may be participants.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

February 23, 2023	MARATHON PETROLEUM CORPORATION
	By: /s/ C. Kristopher Hagedorn
	C. Kristopher Hagedorn Senior Vice President and Controller

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on February 23, 2023 on behalf of the registrant and in the capacities indicated.

Signature	Title
/s/ Michael J. Hennigan Michael J. Hennigan	Director, President and Chief Executive Officer (principal executive officer)
/s/ Maryann T. Mannen Maryann T. Mannen	Executive Vice President and Chief Financial Officer (principal financial officer)
/s/ C. Kristopher Hagedorn C. Kristopher Hagedorn	Senior Vice President and Controller (principal accounting officer)
* Abdulaziz F. Alkhayyal	Director
* Evan Bayh	Director
* Charles E. Bunch	Director
* Jonathan Z. Cohen	Director
* Edward G. Galante	Director
* Kim K.W. Rucker	Director
* Frank M. Semple	Director
* J. Michael Stice	Director
* John P. Surma	Chairman of the Board
* Susan Tomasky	Director

* The undersigned, by signing his name hereto, does sign and execute this report pursuant to the Power of Attorney executed by the above-named directors and officers of the registrant, which is being filed herewith on behalf of such directors and officers.

By: /s/ Michael J. Hennigan   February 23, 2023

Michael J. Hennigan
Attorney-in-Fact

Exhibit 4.3

DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934

Marathon Petroleum Corporation, a Delaware corporation ("MPC"), has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): common stock, par value $0.01 per share ("common stock"). References to the "Company," "we," "our" and "us" refer to MPC, unless the context otherwise requires. References to "stockholders" refer to holders of our common stock, unless the context otherwise requires.

DESCRIPTION OF COMMON STOCK

In the text that follows, we have summarized the material provisions of our certificate of incorporation (the "certificate of incorporation") and our bylaws (the "bylaws") relating to our capital stock. This discussion is qualified in its entirety by our certificate of incorporation, bylaws and applicable Delaware law. You should read the provisions of the certificate of incorporation and bylaws as currently in effect for more details regarding the provisions described below and for other provisions that may be important to you.

Authorized Capital Stock

The Company is authorized to issue 2,030,000,000 shares of capital stock, of which 2,000,000,000 shares are classified as common stock, par value $.01 per share ("common stock"), and 30,000,000 shares are classified as preferred stock, par value $.01 per share ("preferred stock"). All of the outstanding shares of the Company's common stock are fully paid and nonassessable.

Voting Rights

Each share of our common stock entitles its holder to one vote in the election of each director and on all other matters voted on generally by our stockholders. No share of our common stock affords any cumulative voting rights.

Under our bylaws, unless otherwise provided by law, our certificate of incorporation or our bylaws, the authorization of any action or the transaction of any business at any meeting of our stockholders at which a quorum is present (other than the election of directors) shall be decided by the affirmative vote of the majority of shares present in person or represented by proxy and entitled to vote on the matter. As described below, the affirmative vote of the holders of at least 80% of the voting power of all of the then outstanding shares of capital stock present in person or represented by proxy and generally entitled to vote in the election of directors, voting together as a single class ("voting stock"), is required to take certain actions, including amending certain provisions of the certificate of incorporation. Please read the section entitled "*—Anti-Takeover Effects of Provisions of our Certificate of Incorporation and Bylaws*."

Under our bylaws, in connection with an election of directors, each nominee for election in an uncontested election is elected by the vote of the majority of votes cast with respect to such director at any meeting of our stockholders at which a quorum is present, meaning that the number of shares voted for such director must exceed the number of shares voted against such director; provided, however, that, if the number of nominees exceeds the number of directors to be elected as of a date that is ten (10) days in advance of the date we mail the notice for such meeting to stockholders entitled to vote at such meeting, the directors shall be elected by the affirmative vote of a plurality of the votes cast, not including broker non-votes and abstentions, by stockholders entitled to vote on the election of directors at such meeting of stockholders at which a quorum is present.

Dividends

The holders of shares of common stock are entitled to receive such dividends, if any, as may be declared from time to time by the board of directors in its discretion from funds legally available therefor. The declaration and amount of future dividends is at the discretion of our board of directors and will depend on our financial condition, results of operations, cash flows, prospects, industry conditions, capital requirements and other factors and restrictions our board of directors deems relevant. In addition, the terms of the loan agreements, indentures and other agreements we may enter into from time to time may contain covenants or other provisions that could limit our ability to pay, or otherwise restrict the payment of, cash dividends.

Right to Receive Liquidation Distributions

Upon liquidation, dissolution or winding-up of the Company's business, the holders of our common stock will share ratably in all assets available for distribution to stockholders after our creditors are paid in full and the holders of all series of our outstanding preferred stock, if any, receive their liquidation preferences in full.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights and is not subject to conversion or sinking fund provisions. Under certain circumstances, as described more fully below in the section entitled "—*Restrictions on Stock Ownership by Non-U.S. Citizens*," the Company shall have the power, but not the obligation, to redeem shares of common stock held by certain stockholders in excess of ownership thresholds set forth in the certificate of incorporation.

The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Anti-Takeover Effects of Provisions of our Certificate of Incorporation and Bylaws

Certain provisions of our certificate of incorporation and bylaws discussed below may have the effect, either alone or in combination with the provisions of our certificate of incorporation discussed above and Section 203 of the General Corporation Law of the State of Delaware (the "DGCL"), of making more difficult or discouraging a tender offer, proxy contest, merger or other takeover attempt that our board of directors opposes but that a stockholder might consider to be in its best interest.

Our certificate of incorporation provides that our stockholders may act only at an annual or special meeting of stockholders and may not act by written consent. Our bylaws provide that a special meeting of our stockholders may only be called by (i) the chairman of our board of directors, (ii) the chief executive officer, (iii) the majority of our board of directors or (iv) the board of directors upon the written request of stockholders owning at least 25%, in the aggregate, of the voting power of the voting stock, subject to the requirements of Section 1.2(b) of our bylaws.

Our certificate of incorporation provides for a classified board of directors. Except for directors who may be elected by the holders of preferred stock, if any, our board of directors is divided into three classes, with the directors of each class as nearly equal in number as possible. At each annual meeting of our stockholders, the term of a different class of our directors will expire. As a result, under our certificate of incorporation, as currently in effect, we contemplate that our stockholders will elect approximately one-third of our board of directors each year.

Our certificate of incorporation provides that the number of directors will be fixed exclusively by, and may be increased or decreased exclusively by, our board of directors from time to time, but will not be less than three nor more than twelve. Our certificate of incorporation provides that directors may be removed only by the Court of Chancery of the State of Delaware under Section 225(c) of the DGCL or for cause (as such term is defined in our certificate of incorporation) as determined by a vote of at least 80% of the voting power of our outstanding voting stock. A vacancy on our board of directors may be filled by a vote of a majority of the directors in office, and a director appointed to fill a vacancy serves for the remainder of the term of the class of directors in which the vacancy occurred or until the earlier of such director's death, resignation or removal.

Our bylaws contain advance-notice and other procedural requirements that provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and also specify requirements as to the form and content of a stockholder's notice. Our certificate of incorporation and bylaws also confer on our board of directors the power to adopt, amend or repeal our bylaws with the affirmative vote of a majority of the directors then in office.

Our bylaws provide that a stockholder, or group of up to 20 stockholders, that has owned continuously for at least three years shares of common stock representing an aggregate of at least 3% of the Company's outstanding shares of common stock, may nominate and include in the Company's proxy materials director nominees constituting up to 20% of the Company's board of directors, provided that the stockholder(s) and nominee(s) satisfy the requirements in the bylaws.

Our certificate of incorporation provides that a vote of at least 80% of the voting power of our outstanding voting stock at any regular or special meeting of the stockholders is required to adopt, amend or repeal certain provisions of our certificate of incorporation.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have subject matter jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for: (i) any derivative action or proceeding brought on behalf of MPC; (ii) any action asserting a claim of breach of a fiduciary duty owed by any current or former director, officer or other employee of MPC to MPC or its stockholders; (iii) any action asserting a claim arising pursuant to any provision of the DGCL, our certificate of incorporation, any preferred stock designation or our bylaws; or (iv) any other action asserting a claim that is governed by or subject to the internal affairs doctrine. Our certificate of incorporation also provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United State of America shall be the sole and exclusive forum for any action asserting a claim arising under the Securities Act of 1933. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of our stock will be deemed to have notice of and consented to these provisions.

Our certificate of incorporation authorizes our board of directors, without the approval of our stockholders, to provide for the issuance of all or any shares of our preferred stock in one or more series and to determine the designation, powers, preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions applicable to any of those rights, including dividend rights, voting rights, conversion or exchange rights, terms of redemption and liquidation preferences, of each series.

Statutory Business Combination Provision

We are a Delaware corporation and are subject to Section 203 of the DGCL. In general, Section 203 prevents an "interested stockholder," which is defined generally as a person owning 15% or more of a Delaware corporation's outstanding voting stock or any affiliate or associate of that person, from engaging in a broad range of "business combinations" with the corporation for three years following the date that person became an interested stockholder unless:

- before that person became an interested stockholder, the board of directors of the corporation approved the transaction in which that person became an interested stockholder or approved the business combination;
- on completion of the transaction that resulted in that person's becoming an interested stockholder, that person owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, other than stock held by (1) directors who are also officers of the corporation or (2) any employee stock plan that does not provide employees with the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- following the transaction in which that person became an interested stockholder, both the board of directors of the corporation and the holders of at least two-thirds of the outstanding voting stock of the corporation not owned by that person approve the business combination.

Under Section 203, the restrictions described above also do not apply to specific business combinations proposed by an interested stockholder following the announcement or notification of designated extraordinary transactions involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation's directors, if a majority of the directors who were directors prior to any person's becoming an interested stockholder during the previous three years, or were recommended for election or elected to succeed those directors by a majority of those directors, approve or do not oppose that extraordinary transaction.

Restrictions on Stock Ownership by Non-U.S. Citizens

We are subject to a variety of U.S. federal statutes and regulations, including the Shipping Act of 1916, as amended, and the Merchant Marine Act of 1920, as amended, that govern the ownership and operation of vessels used to carry cargo between U.S. ports (the "Maritime Laws").

To ensure that ownership by non-U.S. citizens of our stock will not exceed the 25% maximum permitted by the Maritime Laws, our certificate of incorporation limits the aggregate percentage ownership by non-U.S. citizens of our stock to 23% of the outstanding shares. We may prohibit transfers that would cause ownership of our stock by non-U.S. citizens to exceed 23%. Our certificate of incorporation authorizes us to effect any and all measures necessary or desirable to monitor and limit foreign ownership of our stock.

If, despite such measures, the number of shares of our stock that are owned by non-U.S. citizens exceeds 23%, we may suspend the voting, dividend and other distribution rights of the shares owned by non-U.S. citizens in excess of 23%. The determination of which shares will be deemed in excess of the 23% limitation will be made by reference to the dates the shares were acquired by non-U.S. citizens. Our determination of which shares are deemed to be in excess will be conclusive. We will have the power but are under no obligation to redeem any such excess shares at a redemption price per share equal to the fair market value of the shares on the date it calls for redemption plus any dividend or other distribution declared with respect to such shares prior to the date we call for redemption and remaining unpaid.

Listing

The Company's common stock is listed on The New York Stock Exchange under the trading symbol "MPC."

Marathon Petroleum
Annual Cash Bonus Program (ACB)
2023

Exhibit 10.47

This document applies to Awards made under the Marathon Petroleum Annual Cash Bonus Program (Program) for the 2023 Performance Period. The Program's purpose is to incentivize and reward Eligible Employees for executing on the strategy of Marathon Petroleum Corporation. The Program operates under the Marathon Petroleum Corporation 2021 Incentive Compensation Plan (Plan), the terms of which are incorporated into this document by reference, and all Awards under the Program are otherwise subject to the Plan's terms.

I. DEFINITIONS

As used in the Program, the following terms have the meanings set forth below. Capitalized terms not specifically defined in this document have the meanings specified in the Plan. In the event of any conflict between the Program and the Plan, the terms of the Plan shall control.

Award means an Eligible Employee's cash amount determined pursuant to the Program's applicable terms, conditions and limitations. An Award constitutes an "Award", specifically a "Performance Cash" type of "Performance Award" as defined under the Plan.

Change in Control has the meaning as defined under the Plan; provided, that to the extent an Award provides for the payment of deferred compensation within the meaning of Section 409A of the Code, the events constituting a Change in Control shall have the meaning and are intended to be events constituting a change in ownership or a change in effective control for purposes of Section 409A of the Code.

Committee means the Compensation & Organization Development Committee, designated by the Board with the authority to administer the Program.

Company means Marathon Petroleum Corporation, as defined in the Plan, and, where the context so requires, each Company Subsidiary whose Employees are Eligible Employees under the Program.

Company Funding means the Program funding level for the Performance Period as determined under section III (Award Determination).

Eligible Employee means an Employee who meets the Program's eligibility requirements as set forth in section II (Eligibility & Participation). Being an Eligible Employee does not guarantee an Award.

Eligible Wages means wages as determined under section III (Award Determination).

Employee Performance means an individual performance adjustment as determined under section III (Award Determination).

Performance Criteria means the threshold, target, and maximum desired result for each Performance Metric as established by the Committee.

Performance Metric Weight means the percentage weighting applied to each Performance Metric as established by the Committee. The sum of the Performance Metric Weights for all Performance Metrics shall equal 100%.

Performance Metrics means the metrics established by the Committee upon which the Program will be assessed at the end of the Performance Period.

Performance Period means January 1, 2023, through December 31, 2023.

Resulting Achievement means the level of achievement for a Performance Metric for the Performance Period as determined under section III (Award Determination).

Salary Grade means a compensation classification level for an Employee under the policies and practices of the Company or Subsidiary for whom the Employee performs services.

Senior Leader means an Employee who is assigned a salary grade of 88 or 89 within the Company salary structure.

Target Award means the percentage assigned to an Eligible Employee as determined under section III (Award Determination).

II. ELIGIBILITY & PARTICIPATION

The following Company Employees are Eligible Employees in the Program:

- Regular full-time or regular part-time Employees, who are assigned to a Salary Grade within the Company salary structure on the last day of the Performance Period.
- Employees who are paid on an "hourly" schedule as of the last day of the Performance Period, including:
  - waterborne employees who are not regular, full-time captains or pilots;
  - union employees subject to negotiated prior agreement;
  - non-union hourly employees; and
  - seasonal employees.

An Eligible Employee whose employment terminates during the Performance Period shall remain an Eligible Employee in the Program if such termination is not performance-related (as determined by the Company in its sole discretion) and is on account of:

- retirement, which for this purpose means the Employee was at least age 50 with at least ten years of accredited service on their termination date;
- death; or
- a termination of employment that caused the Employee to become eligible for termination allowance under the Marathon Petroleum Termination Allowance Plan.

Notwithstanding the preceding provisions, unless otherwise determined by the Committee prior to the occurrence of a Change in Control, and except as otherwise may be provided in an Eligible Employee's written agreement with the Company or Subsidiary, upon the occurrence of a Change in Control during the Performance Period, eligibility shall be determined on the date immediately preceding the occurrence of the Change in Control, rather than on the last day of the Performance Period.

In no event shall any of the following types of Employees be considered Eligible Employees:

- Any Employee who terminates employment with the Company or any Subsidiary during the Performance Period for any reason other than those Employees who are an Eligible Employee on account of retirement, death or eligibility for benefits under the Marathon Petroleum Termination Allowance Plan as provided above; unless otherwise determined by the Committee and except as may otherwise be provided in an Eligible Employee's written agreement with the Company or Subsidiary, which may include a collective bargaining agreement or other collectively-bargained agreement (e.g., a memorandum of understanding, a letter agreement, an agreement resulting from effects bargaining).

- Temporary or intermittent Employees who are classified by the Company or a Subsidiary as casual, intern, co-op, summer helper, or summer laborer.
- Any Employee who is eligible for any other broadly-offered annual incentive compensation program of the Company or any Subsidiary, including, unless otherwise determined by the Company, any annual incentive compensation program applicable to a group of Employees who commenced employment with the Company on account of a merger or other acquisition type transaction.
- Independent contractors or employees of third parties providing services to the Company or any Subsidiary or affiliate of the Company, and consultants.

III. AWARD DETERMINATION

An Eligible Employee's Award shall be determined using the following formula:

(Eligible Wages X Target Award X Company Funding) +/- Employee Performance = AWARD

Eligible Wages

- Eligible Wages for a non-Senior Leader Employee means the following compensation items paid to the Employee during the Performance Period, determined before (A) deductions for taxes or benefits, and (B) deferrals of compensation pursuant to any Company or Subsidiary-sponsored plan.
  - base wages and overtime wages;
  - geographic pay differentials; and
  - location premiums
- For clarity, Eligible Wages for a non-Senior Leader Employee does not include non-cash compensation, equity-based compensation, allowances (including tax allowances), reimbursements, premiums relative to relocation, payments for unused vacation, any bonus or recognition payments made, or wages paid or processed by a third party except from third parties specifically contracted to pay Eligible Employees employed outside of the United States.
- Eligible Wages for an Employee designated as a Senior Leader means their annualized base salary in effect on the last day of the Performance Period; provided that, Eligible Wages for an Employee designated as a Senior Leader who is hired or termed during the Performance Period shall be determined as defined for non-Senior Leaders.
- Notwithstanding the preceding provisions, upon the occurrence of a Change in Control during the Performance Period, Eligible Wages for an Employee (including both Senior Leader Employees and non-Senior Leader Employees) shall be the actual wages paid to that Employee during the Performance Period to the date of the Change in Control.

Target Award

- An Eligible Employee's Target Award is determined as follows according to the Eligible Employee's Salary Grade or employment classification as of the last day of the Performance Period:

Salary Grade or Classification*	Target Award (%)
Senior Leader	As designated or delegated by the Committee
19	
18	
17	
16	
15	
14	
13	
12	
10, 11, and N9	
7, 8, 9, and N8	
N1 – N7	
Hourly Non-Represented, Waterborne, Seasonal	
Hourly Represented	

** Including equivalent Salary Grades for non-U.S. locations.*

- Notwithstanding the preceding provisions, in the event of a Change in Control occurring during the Performance Period, an Eligible Employee's Target Award shall be determined according to the Eligible Employees Salary Grade or employment classification as of the date immediately preceding the occurrence of the Change in Control.
- The Committee or its delegate may provide a Target Award for an Eligible Employee that is different from the Target Award shown in the table above.

Company Funding

- The Committee has established the following Performance Metrics and their respective Performance Metric Weights for the Performance Period.

Performance Metric	Weight
Relative Adjusted EBITDA per Barrel of Total Throughput	30%
Adjusted EBITDA	20%
Distributable Cash Flow (DCF) at MPLX per Unit	20%
Refining and Corporate Costs	10%
Environmental, Social, & Governance, consisting of the following four metrics:	20%
Greenhouse Gas (GHG) Intensity	5%
Process Safety Events (PSE) Score	5%
Designated Environmental Incidents	5%
Diversity, Equity, & Inclusion	5%

- Upon completion of the Performance Period, the Committee shall assess the Resulting Achievement for each Performance Metric as compared to the Performance Criteria and shall determine Company Funding. In making this determination:
  - Each Performance Metric assessed at the end of the Performance Period can have a funding result from 0% to 200%.
  - A Performance Metric will not fund when its Resulting Achievement does not meet its threshold Performance Criteria.
  - Each Performance Metric's funding will be established at 50% for threshold performance, 100% for target performance, and 200% for maximum performance. Linear interpolation will be used when determining Performance Metric funding for a Resulting Achievement that falls between threshold and target or between target and maximum Performance Criteria. The Committee may adjust or waive the achievement of any of the Performance Metrics.
  - The resulting funding for each Performance Metric shall be multiplied by its associated Performance Metric Weight, the sum of which will be Company Funding. The Committee may modify the resulting Company Funding as permitted under the Plan.
  - Pursuant to the Plan, the Committee shall certify, or provide for the certification of, in writing the Company Funding. This certification shall be made prior to the determination of Awards to Eligible Employees.
- Notwithstanding the preceding provisions: (a) in the event a Change in Control occurs during the Performance Period, Company Funding shall be 100%; and (b) in the event a Change in Control occurs after the Performance Period but before distribution of Awards for that Performance Period, Company Funding shall be the greater of 100% or the amount otherwise determined by the Committee in its normal course determination of Company Funding for that Performance Period.

Employee Performance

The Committee or its delegate may adjust an Eligible Employee's Award for Employee Performance as follows:

- An Award for an Eligible Employee who is a Senior Leader (excluding the CEO) may have a positive or negative Employee Performance adjustment of 0% to 15%.

- An Award for an Eligible Employee who is a regular full-time or regular part-time Employee and who is assigned to a Salary Grade within the Company salary structure, may have a positive or negative Employee Performance adjustment that reduces the Award to $0 or increases the Award up to 200% of the product of the Eligible Employee's Eligible Wages and the Target Award. (Where so delegated, this adjustment determination will be made by the Eligible Employee's leadership.)
- For certain represented hourly Eligible Employees, an Employee Performance adjustment may be applied pursuant to the terms set forth in the applicable collective bargaining agreement or other collectively-bargained agreement (referred to as the personal productivity multiplier and/or disciplinary reduction factor).
- No Employee Performance adjustment may be made for any other Eligible Employee.
- Notwithstanding the preceding provisions, in the event of a Change in Control, an Award for an Eligible Employee shall not have a negative Employee Performance adjustment applied.

Award

- Awards shall be determined following the close of the Performance Period.
- An Eligible Employee's Award cannot exceed 200% of the product of the Eligible Employee's Eligible Wages and Target Award.

IV. DISTRIBUTION

- Awards shall be distributed – i.e., paid – in cash, in the denomination of the Eligible Employee's local currency.
- Awards shall be paid in 2024.
- Notwithstanding the preceding provision, in the event a Change in Control occurs during the Performance Period, each Eligible Employee's Award shall be paid as soon as administratively practicable following the date the Change in Control occurred, but in no event later than 45 days from such date. The timing of the payment within this 45-day period shall be determined solely by the Committee and without regard to any tax implications to an Eligible Employee.

V. TAXATION & WITHHOLDING

- There shall be deducted from all Awards, any taxes or other deductions required to be withheld or collected by United States federal, state, and local governments and taxing authorities, and by other national, provincial, or local governments and paid over to such governments and taxing authorities for the account of each Eligible Employee. The tax withholding provisions of the Plan apply.
- Subject to applicable state withholding laws, the Company or any Subsidiary may also deduct from any Award, at its sole discretion, any and all amounts determined by Company management to be owed to the Company or any Subsidiary by the Eligible Employee.
- If applicable, court ordered garnishments or tax levies may be withheld from an Eligible Employee's Award.

VI. GENERAL PROVISIONS

- The Program is the successor Program to the Success Through People (STP) Program. The terms and the conditions of the STP Program are now included under this Program.
- The Program shall be administered by the Committee. The Program is a discretionary bonus program, and the Committee has the complete and sole authority and discretion to:
  - delegate certain aspects of Program administration; provided, that, in no event shall the Committee delegate its authority with respect to the compensation of any Eligible Employee deemed to be an "executive officer" as defined in Rule 3b-7 promulgated under the Securities Exchange Act of 1934, as amended;
  - interpret the Program, including any interpretation to correct any defect, supply any omission or reconcile any inconsistency in the Program;
  - establish, interpret, amend, or revoke rules and regulations relating to the administration of the Program; and
  - otherwise make all determinations and take all other actions necessary or appropriate for the proper administration of the Program.
- The Committee has the complete and sole discretion to change, terminate, or modify Awards, or otherwise amend any aspect of the Program (including, but not limited to the termination of all or a portion of the Program) prospectively or retroactively.
- Except as may be provided for under the Change in Control provisions of the Program, no Eligible Employee, Employee, or other person shall have any claim or right to be granted an Award under the Program.
- Nothing contained in the Program shall limit the ability of the Company to make payments or Awards to Employees under any other program, agreement, or arrangement.
- Neither the establishment of the Program, nor any action taken pursuant to the Program, shall be construed as giving any Eligible Employee or Employee any right to be retained in the employ of the Company or any Subsidiary, or participate in the Program in the current or succeeding Performance Periods.
- Any rights and benefits of an Eligible Employee under the Program are personal to the Eligible Employee and, except for any payments that may be made following an Eligible Employee's death, shall not be subject to any voluntary or involuntary alienation, assignment, pledge, transfer, encumbrance, attachment, garnishment, or other disposition.
- Except as may be required by law or otherwise be specifically stated under any employee benefit plan, policy or program of the Company or a Subsidiary, no amount payable in respect of any Award shall be treated as compensation for purposes of calculating an Eligible Employee's right under any such plan, policy, or program; nor shall any Award be treated as compensation for purposes of termination indemnities or other similar rights, except as may be required by law.
- Nothing in this Program document shall be construed (a) to limit, impair, or otherwise affect the Company's or any Subsidiary's right or power to make adjustments, reclassifications, reorganizations, or changes of its capital or business structure, or to merge or consolidate, or dissolve, liquidate, sell, or transfer all or any part of its business or assets, or (b) to limit the right or power of the Company or any of its Subsidiaries to take any action which such entity deems to be necessary or appropriate.

- In all events, whether any Award is made to an Eligible Employee will depend on the decision of the Committee. All Awards are subject to the sole discretion of the Committee, and nothing in this document or any other document (except as may be provided for in the Program's Change in Control provisions) describing or referring to the Program shall confer any right whatsoever on any person to be considered for any Award.
- This Program document may be changed or discontinued at any time without notice or liability at the sole discretion of the Committee.
- Awards made under the Program shall be subject to and governed by the specific terms and conditions of the Plan, Program and the applicable Award.
- The Program shall not require the Company to segregate any monies from its general fund or to create any trusts, or to make any special deposits for any amount payable to any Eligible Employee.
- The Program is intended to provide compensation that is exempt from, or that complies with Section 409A of the Code, and ambiguous provisions of the Program and resulting Awards, if any, shall be construed in a manner that would cause Awards and the Program's terms to be compliant with or exempt from the application of Section 409A of the Code, as appropriate. If any payment, or portion thereof, must be delayed in order to comply with Section 409A of the Code because an Eligible Employee is a "specified employee" as defined in Section 409A(a)(2)(B)(i) of the Code, the payment, or the portion so delayed, shall be made on the soonest date permissible without triggering the additional tax due under Section 409A of the Code. As used in the Program, "termination of employment" and similar terms shall mean a "separation from service" within the meaning of Section 409A of the Code to the extent an Award or a provision of the Program provides for the payment of deferred compensation within the meaning of Section 409A of the Code. Additionally, notwithstanding anything to the contrary in the Program or an Award, it will not be a violation of the Program or Award or Plan (and an Eligible Employee will not have any right to damages or other relief) if the Company or any Subsidiary distributes an Eligible Employee's Award during the period permitted by Section 409A of the Code.
- No member of the Committee, or employee of the Company or a Subsidiary, shall be liable for any act done, or determination made in good faith, with respect to the administration of the Program, including any Award made pursuant to the Program and the Plan. The Company indemnifies and holds harmless to the fullest extent allowed by law such persons individually and collectively, from and against any and all losses resulting from liability to which the Committee, or the members of such body, or employees of the Company or any Subsidiary may be subjected by reason of any act or conduct (except willful misconduct, fraud or gross negligence) in their official capacities in the administration of the Program, including all expenses reasonably incurred in their defense, in case the Company fails to provide such defense.
- Any provision of the Program prohibited by law shall be ineffective to the extent of such prohibition without invalidating the remaining provisions.
- The terms of the Program document supersede any written or verbal agreements, representations, proposals, or plans with respect to the subject matter hereof; provided, however, that the forgoing shall not act to supersede an existing written agreement between an Eligible Employee and the Company that has been approved by the Committee.
- Eligible Employees who are officers of the Company (as assigned through the Nominating and Governance Committee of the Board) are subject to the Program's recoupment provisions, in the case of certain forfeiture events. If the Company is required, pursuant to a determination made by the United States Securities and Exchange Commission or the Audit Committee of the Board, to prepare a material accounting restatement due to the

noncompliance of the Company with any financial reporting requirement under applicable securities laws as a result of misconduct, the Audit Committee of the Board may determine that a forfeiture event has occurred based on an assessment of whether an officer knowingly engaged in misconduct, was grossly negligent with respect to misconduct, knowingly failed or was grossly negligent in failing to prevent misconduct or engaged in fraud, embezzlement, or other similar misconduct materially detrimental to the Company.

- Upon the Audit Committee's determination that forfeiture event has occurred, the Company has the right to request and receive reimbursement of any portion of an officer's Award from the Program that would not have been earned or paid had the forfeiture event have not taken place.
- These recoupment provisions are in addition to the requirements in Section 304 of the Sarbanes-Oxley Act of 2002 which provide that the CEO and CFO shall reimburse the Company for any bonus or other incentive-based or equity-based compensation as well as any related profits received in the 12-month period prior to the filing of an accounting restatement due to non-compliance with financial reporting requirements as a result of Company misconduct.
- Notwithstanding the foregoing or any other provision of this Program to the contrary, the Company may also require that the officer repay to the Company any compensation paid under this Program, as is required by the provisions of the Dodd-Frank Act and the regulations thereunder or any other "clawback" or similar type provisions as required by law or by the applicable listing standards of the exchange on which the Company's common stock is listed for trading.

Exhibit 10.48

MARATHON PETROLEUM CORPORATION
PERFORMANCE SHARE UNIT AWARD AGREEMENT
2023 – 2025 PERFORMANCE PERIOD

SENIOR LEADERS (CEO, DESIGNATED POSITIONS & EXECUTIVE RESOURCES)

As evidenced by this Award Agreement and under the Marathon Petroleum Corporation 2021 Incentive Compensation Plan (the "Plan"), Marathon Petroleum Corporation (the "Company") has granted to **{Participant Name}** (the "Participant"), an employee of the Company or a Subsidiary, on **{Grant Date}** (the "Grant Date"), **{Number of Awards Granted}** Performance Share Units (the "Performance Award" or "Award"), conditioned on the Company's TSR ranking relative to the Peer Group for the Performance Period as established by the Compensation and Organization Development Committee of the Board of Directors of the Company (which is the "Committee" as defined in the Plan), and as set forth herein. This Performance Award is subject to the following terms and conditions:

1. **Relationship to the Plan.** This Award is subject to all of the terms, conditions and provisions of the Plan and administrative interpretations thereunder, if any, that have been adopted by the Committee. Except as otherwise defined in this Award Agreement, capitalized terms shall have the same meanings given to them under the Plan. To the extent that any provision of this Award Agreement conflicts with the express terms of the Plan, the terms of the Plan shall control and, if necessary, the applicable provisions of this Award Agreement shall be hereby deemed amended so as to carry out the purpose and intent of the Plan. References to the Participant also include the heirs or other legal representatives of the Participant.

2. **Forfeiture of Performance Share Units if Award Not Timely Accepted.** This Award is conditioned upon and subject to the Participant accepting the Award by signing and delivering to the Company this Award Agreement, or otherwise electronically accepting the Award in such manner as the Committee may in its discretion determine, no later than 11 months after the Grant Date. If the Participant does not timely accept this Award, all Performance Share Units subject to this Award shall be forfeited to the Company. In the event of the Participant's death or incapacitation prior to accepting the Award, the Company shall deem the Award as being accepted by the Participant.

3. **Determination of Payout Percentage.** As soon as administratively feasible following the end of the Performance Period, the Committee shall determine and certify the TSR Performance Percentile and the resulting Payout Percentage as follows (using straight-line interpolation between the 30th percentile and the 50th percentile and between the 50th percentile and the 100th percentile):

TSR Performance Percentile	Payout Percentage
Ranked below 30th percentile	0%
Ranked at 30th percentile	50%
Ranked at 50th percentile	100%
Ranked at the 100th percentile	200%

Notwithstanding anything in this Award Agreement to the contrary, if the Company's TSR calculated for the Performance Period is negative, then the Payout Percentage shall not exceed 100% regardless of the TSR Performance Percentile.

Notwithstanding anything in this Award Agreement to the contrary, the Committee has the sole and absolute authority and discretion to reduce the Payout Percentage as it may deem appropriate.

4. Vesting and Payment of Performance Share Units. Unless the Participant's right to the Performance Share Units is previously forfeited or vested and payable in accordance with Paragraphs 5, 6, 7, 8 or 9, the Participant shall vest in the Performance Share Units on the Performance Period End Date, provided the Participant has been in continuous Employment from the Grant Date to and including the Performance Period End Date, and the Participant shall be entitled to receive a payment equal to the Payout Value. The Payout Value shall be paid in cash as soon as administratively feasible following the Committee's determination under Paragraph 3 and, in any event, between January 1 and March 15 immediately following the end of the Performance Period. If, in accordance with the Committee's determination under Paragraph 3, the Payout Value is zero, the Participant shall immediately forfeit any and all rights to the Performance Share Units. Upon the vesting and/or forfeiture of the Performance Share Units pursuant to this Paragraph 4 and the making of the related cash payment, if any, the rights of the Participant and the obligations of the Company under this Award Agreement shall be satisfied in full. Notwithstanding the preceding sentence of this Paragraph 4, in the event of the Participant's death, any cash payment that is otherwise deliverable under this Award will be distributed to the correlated brokerage account (or the SPS Participant Trust if an international employee) and will be subject to the designated beneficiary on file and then in effect with the recordkeeper for such brokerage (or the SPS Participant Trust, where applicable), or in the absence of a designated beneficiary, to the executor or administrator of the estate.

5. Termination of Employment. Except as provided in Paragraphs 6, 7, 8 or 9, if the Participant's Employment is terminated prior to the Performance Period End Date, the Participant's right to the Performance Share Units shall be forfeited in its entirety as of the date of such termination, and the rights of the Participant and the obligations of the Company under this Award Agreement shall be terminated.

6. Death. Except as provided in Paragraphs 7 and 8, in the event of the Participant's death prior to the Performance Period End Date, the Performance Share Units shall vest in full as of the date of the Participant's death, the Payout Percentage shall be 100%, the Payout Value shall be determined as of the date of the Participant's death and shall be paid in cash within 60 days of the Participant's date of death, and such vesting and payment shall satisfy the rights of the Participant and the obligations of the Company under this Award Agreement in full.

7. Approved Separation. In the event of the Participant's Approved Separation prior to the Performance Period End Date, the Performance Share Units shall vest in full as of the date of the Approved Separation, and such vested Performance Share Units shall be determined and paid as otherwise provided in Paragraphs 3 and 4. The death of the Participant following the Participant's Approved Separation shall have no effect on this Paragraph 7.

8. Qualified Termination. In the event of the Participant's termination of Employment on account of a Qualified Termination prior to the Performance Period End Date, the Performance Share Units shall vest in full as of the date of the Qualified Termination, the Payout Percentage shall be 100%, and such vested Performance Share Units shall be determined and paid as otherwise provided in Paragraph 4. The death of the Participant following the Participant's termination of Employment on account of a Qualified Termination shall have no effect on this Paragraph 8.

9. Mandatory Retirement. In the event of the Participant's termination of Employment on account of Mandatory Retirement prior to the Performance Period End Date, the Performance Share Units shall vest in full as of the date of Mandatory Retirement, and such vested Performance Share Units shall be determined and paid as otherwise provided in Paragraphs 3 and 4. The death of the Participant following the Participant's termination of Employment on account of Mandatory Retirement shall have no effect on this Paragraph 9.

10. Conditions Precedent. This Paragraph 10 shall apply to this Award notwithstanding any other provision of this Award Agreement to the contrary. The Participant's services to the Company and its Subsidiaries are unique, extraordinary and essential to the business of the Company and its Subsidiaries, particularly in view of the Participant's access to the Company's or its Subsidiaries' confidential information and trade secrets. Accordingly, in consideration of this Award Agreement and by accepting this Award, the Participant agrees that in order to otherwise vest in any right to payment of Performance Share Units under this Award, the Participant must satisfy the following conditions to and including the vesting date under this Award:

(a) The Participant agrees that the Participant will not, without the prior written approval of the Board, at any time during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates (the "Restricted Period"), directly or indirectly, serve as an officer, director, owner, contractor, consultant, or employee of any the following organizations (or any of their respective subsidiaries or divisions): BP plc; Chevron Corporation; ExxonMobil Corporation; HF Sinclair Corporation; PBF Energy Inc.; Phillips 66; Valero Energy Corporation; Buckeye Partners, L.P.; DCP Midstream Partners, L.P; Enterprise Product Partners; Genesis Energy, L.P.; Holly Energy Partners L.P.; Magellan Midstream Partners, L.P.; Phillips 66 Partners, L.P.; Plains All American Pipeline L.P.; Western Midstream Partners, or otherwise engage in any business activity directly or indirectly competitive with the business of the Company or any of its Subsidiaries as in effect from time to time.

(b) The Participant agrees that during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates, the Participant will not, alone or in conjunction with another party, hire, solicit for hire, aid in or facilitate the hire, or cause to be hired, either as an employee, contractor or consultant, any individual who is currently engaged, or was engaged at any time during the six month period prior such event, as an employee, contractor or consultant of the Company or any of its Subsidiaries.

(c) The Participant agrees that the Participant may not, either during the Participant's Employment or thereafter, make or encourage others to make any public statement or release any information or otherwise engage in any conduct that is intended to, or reasonably could be foreseen to, embarrass, criticize or harm the reputation or goodwill of the Company or any of its Subsidiaries, or any of their employees, directors or shareholders; provided that this shall not preclude the Participant from reporting to the Company's management or directors or to the government or a regulator conduct the Participant believes to be in violation of the law or the Company's Code of Business Conduct or responding truthfully to questions or requests for information to the government, a regulator or in a court of law in connection with a legal or regulatory investigation or proceeding.

(d) The Participant agrees and understands that the Company and its Subsidiaries own and/or control information and material which is not generally available to third parties and which the Company or its Subsidiaries consider confidential, including, without limitation, methods, products, processes, customer lists, trade secrets and other information applicable to its business and that it may from time to time acquire, improve or produce additional methods, products, processes, customers lists, trade secrets and other information (collectively, the "Confidential Information"). The Participant acknowledges that each element of the Confidential Information constitutes a unique and valuable asset of the Company and its Subsidiaries, and that certain items of the Confidential Information have been acquired from third parties upon the express condition that such items would not be disclosed to the Company or a Subsidiary and the officers and agents thereof other than in the ordinary course of business. The Participant acknowledges that disclosure of the Confidential Information to and/or use by anyone other than in the Company's or its Subsidiaries' ordinary course of business would result in irreparable and continuing damage to the Company and its Subsidiaries. Accordingly, the Participant agrees to hold the Confidential Information in the strictest secrecy, and covenants that, during the term of the Participant's Employment or at any time thereafter, the Participant will not, without the prior written consent of the Board, directly or indirectly, allow any element of the Confidential Information to be disclosed, published or used, nor permit the Confidential Information to be discussed, published or used, either by the Participant or by any third parties, except in effecting the Participant's duties for the Company and its Subsidiaries in the ordinary course of business.

(e) The Participant agrees that in addition to the forfeiture provisions otherwise provided for in this Award Agreement, upon the Participant's failure to satisfy in any respect of any of the conditions described in Paragraphs 10(a), (b), (c) or (d), any unvested or unpaid portion of this Award (including any otherwise vested, but unpaid portion of this Award) at the time of such failure shall be forfeited, and the rights of the Participant and the obligations of the Company under this Award Agreement shall be satisfied in full, in each case to the extent permitted by applicable law.

11. Forfeiture or Repayment Resulting from Forfeiture Event.

(a) If there is a Forfeiture Event during the Participant's Employment or within three years after termination of the Participant's Employment, then the Committee may, but is not obligated to, cause some or all of the Participant's outstanding Performance Share Units (whether unvested or vested but not yet paid) to be forfeited by the Participant.

(b) If there is a Forfeiture Event either during the Participant's Employment or within three years after termination of the Participant's Employment and a payment has previously been made in settlement of Performance

Share Units granted under this Award Agreement, the Committee may, but is not obligated to, require that the Participant pay to the Company an amount in cash (the "Forfeiture Amount") up to (but not in excess of) the amount paid in settlement of the Performance Share Units.

(c) This Paragraph 11 shall apply notwithstanding any provision of this Award Agreement to the contrary and is meant to provide the Company with rights in addition to any other remedy which may exist in law or in equity. This Paragraph 11 shall not apply to the Participant following the effective time of a Change in Control.

(d) Notwithstanding the foregoing or any other provision of this Award Agreement to the contrary, the Participant agrees that the Company may also require that the Participant repay to the Company any compensation paid to the Participant under this Award Agreement, as is required by the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations thereunder or any other "clawback" provisions as required by law or by the applicable listing standards of the exchange on which the Common Stock is listed for trading.

12. Taxes. Pursuant to the applicable provisions of the Plan, the Company or its designated representative shall have the right to withhold applicable taxes from the cash otherwise payable to the Participant, or from other compensation payable to the Participant (to the extent consistent with Section 409A of the Code), at the time of the vesting and delivery of such cash payment.

13. Nonassignability. Upon the Participant's death, the Performance Share Units under this Award Agreement shall be transferred to the Participant's designated beneficiary, personal representative or estate as provided in Paragraph 4. Otherwise, the Participant may not sell, transfer, assign, pledge or otherwise encumber any portion of the Performance Share Units, and any attempt to sell, transfer, assign, pledge, or encumber any portion of the Performance Share Units shall have no effect.

14. No Employment Guaranteed. Nothing in this Award Agreement shall give the Participant any rights to (or impose any obligations for) continued Employment by the Company or any affiliate thereof or successor thereto, nor shall it give such entities any rights (or impose any obligations) with respect to continued performance of duties by the Participant.

15. Modification of Agreement. Any modification of this Award Agreement shall be binding only if evidenced in writing and signed by an authorized representative of the Company, provided that no modification may, without the consent of the Participant, adversely affect the rights of the Participant hereunder.

16. Specified Employee; Section 409A of the Code. Notwithstanding any other provision of this Award Agreement to the contrary, if the Participant is a "specified employee" within the meaning of Section 409A of the Code as determined by the Company in accordance with its established policy, any settlement of any amount described in this Award Agreement which would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Participant as a result of the Participant's "separation from service" as defined under Section 409A of the Code (other than as a result of death) and which would otherwise be paid within six months of the Participant's separation from service shall be paid on the date that is one day after the earlier of (i) the date that is six months after the Participant's separation from service or (ii) the date that otherwise complies with the requirements of Section 409A of the Code. The payment of each amount under this Award Agreement is deemed as a "separate payment" for purposes of Section 409A of the Code. For all purposes under this Award, "termination of Employment" and similar terms shall mean "separation from service" as defined and determined under Section 409A of the Code.

17. Definitions. For purposes of this Award Agreement:

"**Approved Separation**" means termination of Employment on or after the date the Participant has attained age 55 and completed five years of Employment, provided, that, the termination of Employment occurs no earlier than the later of: (a) six month anniversary of the Grant Date; and (b) 90 days after the Participant has provided notice to the Committee or its delegate of the date of his or her termination of Employment. The Committee may, in its sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee under its purview for the grant and administration of the Award, and the Chief Executive Officer of the Company may, in his or her sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee not under the Committee's purview for the grant and administration of the Award.

"**Beginning Stock Price**" means the average of the daily closing price of a Share for the trading days in the 30 calendar days immediately prior to the commencement of the Performance Period, historically adjusted, if necessary, for any stock split, stock dividend, recapitalizations, or similar corporate events that occur during Performance Period.

"**Change in Control**" for purposes of this Award Agreement shall have the same definition as under the Marathon Petroleum Company Amended and Restated Executive Change in Control Severance Benefits Plan, as in effect on the Grant Date, and such definition and associated terms are hereby incorporated into this Award Agreement by reference.

"**Compensation Reference Group**" means 3M Company, Archer-Daniels-Midland Company, Caterpillar Inc., ConocoPhillips, DuPont de Nemours, Inc., Halliburton Company, Honeywell International Inc., Phillips 66, PPG Industries Inc., Schlumberger N.V. (Schlumberger Limited), Valero Energy Corporation, Baker Hughes Company, Bunge Limited, Cummins Inc, Dow Inc., EOG Resources Inc, General Dynamics Corporation, L3Harris Technologies, Inc., LyondellBasell Industries N.V., and Textron Inc.

"**Employment**" means employment with the Company or any of its Subsidiaries. For purposes of this Award Agreement, Employment shall also include any period of time during which the Participant is on Disability status. The length of any period of Employment shall be determined by the Company or the Subsidiary that either (a) employs the Participant or (b) employed the Participant immediately prior to the Participant's termination of Employment.

"**Ending Stock Price**" means the average of the daily closing price of a Share for the trading days in the final 30 calendar days of the Performance Period.

"**Forfeiture Event**" means the occurrence of at least one of the following events: (a) the Company is required, pursuant to a determination made by the Securities and Exchange Commission or by the Audit Committee of the Board, to prepare a material accounting restatement due to the noncompliance of the

Company with any financial reporting requirement under applicable securities laws as a result of misconduct, and the Committee determines that (i) the Participant knowingly engaged in the misconduct, (ii) the Participant was grossly negligent with respect to such misconduct or (iii) the Participant knowingly or grossly negligently failed to prevent the misconduct; or (b) the Committee concludes that the Participant engaged in fraud, embezzlement or other similar misconduct materially detrimental to the Company.

"**Mandatory Retirement**" means, as determined by the Board of Directors of the Company (or its delegate), a Participant's mandatory retirement under the Marathon Petroleum Corporation Mandatory Retirement Policy, or equivalent thereto, provided such Mandatory Retirement constitutes a separation from service within the meaning of Section 409A of the Code.

"**Payout Percentage**" means the percentage (from 0% to 200%) determined by the Committee in accordance with the procedures set forth in Paragraph 3, which shall be used to determine the Payout Value.

"**Payout Value**" means the product of: (a) the Payout Percentage as determined in Paragraph 3; (b) the number of vested Performance Share Units: and (c) means the average of the daily closing price of a Share for the trading days in the final 30 calendar days of the Performance Period, provided that in the event of the Participant's death, the Fair Market Value of one Share on the date of the Participant's death shall be used.

"**Peer Group**" means the group of companies that are pre-established by the Committee which principally represent a group of selected peers, or such other group of companies as selected and pre-established by the Committee. For this Award, the Committee has determined that the peer group will be BP plc, Chevron Corporation, CVR Energy Inc, Delek US Holdings, Inc., ExxonMobil Corporation, HF Sinclair Corporation, PBF Energy Inc, Phillips 66, Valero Energy Corporation, the S&P 500 Index, the Alerian MLP Index, and one company from the 2023 Compensation Reference Group. The company from the 2023 Compensation Reference Group will be determined by selecting the median company when ranking the 2023 Compensation Reference Group by TSR in descending order for the Performance Period. Such pre-established Peer Group is subject to the following adjustments:

(a) If a member of the Peer Group is substantially acquired by another company, the acquired Peer Group company will be removed from the Peer Group for the Performance Period.

(b) If a member of the Peer Group sells, spins-off, or disposes of a portion of its business, then such Peer Group company will remain in the Peer Group for the Performance Period unless such disposition(s) results in the disposition of more than 50% of such company's total assets during the Performance Period.

(c) If a member of the Peer Group acquires another company, the acquiring Peer Group company will remain in the Peer Group for the Performance Period, unless the newly formed company's primary business no longer satisfies the criteria for which such member was originally selected as a member of the Peer Group, then in such case the company shall be removed from the Peer Group.

(d) If a member of the Peer Group is delisted on all major U.S. stock exchanges, or is no longer publicly-traded, such company will be removed from the Peer Group for the Performance Period.

(e) If any member of the Peer Group splits its stock, such company's TSR performance will be adjusted for the stock split so as not to give an advantage or disadvantage to such company by comparison to the other companies.

(f) Members of the Peer Group that file for bankruptcy, liquidation or reorganization during the Performance Period will remain in the Peer Group positioned below the lowest performing non-bankrupt member of the Peer Group for the Performance Period.

In addition, the Committee shall have the discretionary authority to make other appropriate adjustments in response to a change in circumstances after the commencement of the Performance Period that results in a member of the Peer Group no longer satisfying the criteria for which such member was originally selected.

"**Performance Period**" means the period beginning on January 1, 2023 and ending at the close of December 31, 2025.

"**Performance Period End Date**" means and is December 31, 2025.

"**Performance Share Unit**" for purposes of this Award Agreement means a "Performance Unit" as defined under the Plan.

"**Qualified Termination**" for purposes of this Award Agreement shall have the same definition as under the Marathon Petroleum Company Amended and Restated Executive Change in Control Severance Benefits Plan, as in effect on the Grant Date, and such definition and associated terms are hereby incorporated into this Award Agreement by reference.

"**Total Shareholder Return**" or "TSR" means for the Company and each entity in the Peer Group, the number derived using the following formula:

$$\frac{\text{(Ending Stock Price – Beginning Stock Price) + Cumulative Dividends}}{\text{Beginning Stock Price}}$$

"**TSR Performance Percentile**" means the percentile ranking of the Company's Total Shareholder Return for the Performance Period among the Total Shareholder Returns of the Peer Group companies, ranked in descending order.

Marathon Petroleum Corporation

By: ______________________

Authorized Officer

Exhibit 10.49

MARATHON PETROLEUM CORPORATION
RESTRICTED STOCK UNIT AWARD AGREEMENT

SENIOR LEADERS (CEO, DESIGNATED POSITIONS & EXECUTIVE RESOURCES)
(3-Year Pro Rata Vesting)

As evidenced by this Award Agreement and under the Marathon Petroleum Corporation 2021 Incentive Compensation Plan (the "Plan"), Marathon Petroleum Corporation (the "Company") has granted to **{Participant Name}** (the "Participant"), an employee of the Company or a Subsidiary, on **{Grant Date}** (the "Grant Date"), **{Number of Awards Granted}** Restricted Stock Units (the "Restricted Stock Unit Award" or "Award"). The number of Restricted Stock Units awarded is subject to adjustment as provided in the Plan, and the Restricted Stock Units are subject to the following terms and conditions:

1. Relationship to the Plan. This Award is subject to all of the terms, conditions and provisions of the Plan and administrative interpretations thereunder, if any, that have been adopted by the Committee. Except as otherwise defined in this Award Agreement, capitalized terms shall have the same meanings given to them under the Plan. To the extent that any provision of this Award Agreement conflicts with the express terms of the Plan, the terms of the Plan shall control and, if necessary, the applicable provisions of this Award Agreement shall be hereby deemed amended so as to carry out the purpose and intent of the Plan.

2. Vesting and Forfeiture of Restricted Stock Units.

(a) Subject to Paragraphs 3 and 4, the Restricted Stock Units shall vest as follows:

(i) one-third of the Restricted Stock Units shall vest upon the completion of the service period which commences on the Grant Date and ends on the first anniversary of the Grant Date;
(ii) an additional one-third of the Restricted Stock Units shall vest upon the completion of the service period which commences on the first anniversary of the Grant Date and ends on the second anniversary of the Grant Date; and
(iii) all remaining Restricted Stock Units shall vest upon the completion of the service period which commences on the second anniversary of the Grant Date and ends on the third anniversary of the Grant Date;

provided, however, that the Participant must be in continuous Employment from the Grant Date through the completion of the service period as listed above for each annual installment in order for the Restricted Stock Units for each annual installment to vest. If the Employment of the Participant is terminated for any reason other than death, Approved Separation, Mandatory Retirement, or a Qualified Termination, any Restricted Stock Units that have not vested as of the date of such termination of Employment shall be forfeited to the Company.

(b) Subject to Paragraphs 3 and 4, the Restricted Stock Units shall immediately vest in full, irrespective of the limitations set forth in subparagraph (a) of this Paragraph 2, upon the occurrence of any of the following events:

(i) the Participant's death;
(ii) the Participant's Approved Separation, provided, that the Participant has been in continuous Employment from the Grant Date to the Approved Separation;

(iii) the termination of the Participant's Employment due to Mandatory Retirement, provided the Participant has been in continuous Employment from the Grant Date to the Mandatory Retirement; or

(iv) the Participant's Qualified Termination, provided, that the Participant has been in continuous Employment from the Grant Date to the Qualified Termination.

3. Forfeiture of Restricted Stock Units if Award Not Timely Accepted. This Award is conditioned upon and subject to the Participant accepting the Award by signing and delivering to the Company this Award Agreement, or otherwise electronically accepting the Award in such manner as the Committee may in its discretion determine, no later than 11 months after the Grant Date. If the Participant does not timely accept this Award, all Restricted Stock Units subject to this Award shall be forfeited to the Company. In the event of the Participant's death or incapacitation prior to accepting the Award, the Company shall deem the Award as having been accepted by the Participant.

4. Conditions Precedent. This Paragraph 4 shall apply to this Award notwithstanding any other provision of this Award Agreement to the contrary. The Participant's services to the Company and its Subsidiaries are unique, extraordinary and essential to the business of the Company and its Subsidiaries, particularly in view of the Participant's access to the Company's or its Subsidiaries' confidential information and trade secrets. Accordingly, in consideration of this Award Agreement and by accepting this Award, the Participant agrees that in order to otherwise vest in any right to payment of Restricted Stock Units under this Award, the Participant must satisfy the following conditions to and including the vesting date and the payment date for each applicable annual installment or other applicable portion of this Award:

(a) The Participant agrees that the Participant will not, without the prior written approval of the Board, at any time during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates (the "Restricted Period"), directly or indirectly, serve as an officer, director, owner, contractor, consultant, or employee of any the following organizations (or any of their respective subsidiaries or divisions): BP plc; Chevron Corporation; ExxonMobil Corporation; HF Sinclair Corporation; PBF Energy Inc.; Phillips 66; Valero Energy Corporation; Buckeye Partners, L.P.; DCP Midstream Partners, L.P; Enterprise Product Partners; Genesis Energy, L.P.; Holly Energy Partners L.P.; Magellan Midstream Partners, L.P.; Phillips 66 Partners, L.P.; Plains All American Pipeline L.P.; Western Midstream Partners, or otherwise engage in any business activity directly or indirectly competitive with the business of the Company or any of its Subsidiaries as in effect from time to time.

(b) The Participant agrees that during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates, the Participant will not, alone or in conjunction with another party, hire, solicit for hire, aid in or facilitate the hire, or cause to be hired, either as an employee, contractor or consultant, any individual who is currently engaged, or was engaged at any time during the six month period prior such event, as an employee, contractor or consultant of the Company or any of its Subsidiaries.

(c) The Participant agrees that the Participant may not, either during the Participant's Employment or thereafter, make or encourage others to make any public statement or release any information or otherwise engage in any conduct that is intended to, or reasonably could be foreseen to, embarrass, criticize or harm the reputation or goodwill of the Company or any of its Subsidiaries, or any of their employees, directors or shareholders; provided that this shall not preclude the Participant from reporting to the Company's management or directors or to the government or a regulator conduct the Participant believes to be in violation of the law or the Company's Code of Business Conduct or responding truthfully to questions or requests for information to the government, a regulator or in a court of law in connection with a legal or regulatory investigation or proceeding.

(d) The Participant agrees and understands that the Company and its Subsidiaries own and/or control information and material which is not generally available to third parties and which the Company or its Subsidiaries consider confidential, including, without limitation, methods, products, processes, customer lists, trade secrets and other information applicable to its business and that it may from time to time acquire, improve or produce additional methods, products, processes, customers lists, trade secrets and other information (collectively, the "Confidential Information"). The Participant acknowledges that each element of the Confidential Information constitutes a unique and valuable asset of the Company and its Subsidiaries, and that certain items of the Confidential Information have been acquired from third parties upon the express condition that such items would not be disclosed to the Company or a Subsidiary and the officers and agents thereof other than in the ordinary course of business. The Participant acknowledges that disclosure of the Confidential Information to and/or use by anyone other than in the Company's or its Subsidiaries' ordinary course of business would result in irreparable and continuing damage to the Company and its Subsidiaries. Accordingly, the Participant agrees to hold the Confidential Information in the strictest secrecy, and covenants that, during the term of the Participant's Employment or at any time thereafter, the Participant will not, without the prior written consent of the Board, directly or indirectly, allow any element of the Confidential Information to be disclosed, published or used, nor permit the Confidential Information to be discussed, published or used, either by the Participant or by any third parties, except in effecting the Participant's duties for the Company and its Subsidiaries in the ordinary course of business.

(e) The Participant agrees that in addition to the forfeiture provisions otherwise provided for in this Award Agreement, upon the Participant's failure to satisfy in any respect of any of the conditions described in Paragraphs 4(a), (b), (c) or (d), any unvested or unpaid portion of this Award (including any otherwise vested, but unpaid portion of this Award) at the time of such failure shall be forfeited, and the rights of the Participant and the obligations of the Company under this Award Agreement shall be satisfied in full, in each case to the extent permitted by applicable law.

5. Forfeiture or Repayment Resulting from Forfeiture Event.

(a) If there is a Forfeiture Event during the Participant's Employment or within two years after termination of the Participant's Employment, then the Committee may, but is not obligated to, cause all of the Participant's unvested Restricted Stock Units and vested, but unpaid Restricted Stock Units to be forfeited by the Participant and returned to the Company.

(b) If there is a Forfeiture Event either during the Participant's Employment or within two years after termination of the Participant's Employment, then with respect to Restricted Stock Units granted under this Award Agreement that have vested and have been paid to the Participant, the Committee may, but is not obligated to, require that the Participant pay to the Company an amount (the "Forfeiture Amount") up to (but not in excess of) the lesser of (i) the value of such previously vested Restricted Stock Units as of the date such Restricted Stock Units vested or (ii) the value of such previously vested Restricted Stock Units as of the date on which the Committee makes a demand for payment of the Forfeiture Amount. Any Forfeiture Amount shall be paid by the Participant within 60 days of receipt from the Company of written notice requiring payment of such Forfeiture Amount.

(c) This Paragraph 5 shall apply notwithstanding any provision of this Award Agreement to the contrary and is meant to provide the Company with rights in addition to any other remedy which may exist in law or in equity. This Paragraph 5 shall not apply to the Participant following the effective time of a Change in Control.

(d) Notwithstanding the foregoing or any other provision of this Award Agreement to the contrary, the Participant agrees that the Company may also require that the Participant repay to the Company any compensation paid to the Participant under this Award Agreement, as is required by the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations thereunder or any other "clawback" provisions as required by law or by the applicable listing standards of the exchange on which the Shares are listed for trading.

6. Dividend Equivalent and Voting Rights.

(a) *Limitations on Rights Associated with Restricted Stock Units*. The Participant shall have no rights as a shareholder of the Company, no dividend rights (except as expressly provided in Paragraph 6(b) with respect to Dividend Equivalents) and no voting rights, with respect to the Restricted Stock Units or any Shares underlying or issuable in respect of such Restricted Stock Units until such Shares are actually issued to and held of record by the Participant. No adjustments will be made for dividends or other rights of a holder for which the record date is prior to the date of issuance of the stock certificate or book entry or like action evidencing such Shares.

(b) *Dividend Equivalent Rights Distributions*. As of any date that the Company pays an ordinary cash dividend on its Shares, the Company shall credit the Participant with Dividend Equivalents in a dollar amount equal to (i) the per share cash dividend paid by the Company on its Shares on such date, multiplied by (ii) the total number of Restricted Stock Units (with such total number adjusted pursuant to Section 12.2 of the Plan) subject to the Award that are outstanding immediately prior to the record date for that dividend. Any Dividend Equivalents credited pursuant to the foregoing provisions of this Paragraph 6(b) shall be subject to the same vesting, payment, tax withholding, forfeiture, repayment and other terms, conditions and restrictions applicable to the Restricted Stock Units to which they relate; provided, however, that the amount of any vested Dividend Equivalents shall be paid in cash. No crediting of Dividend Equivalents shall be made pursuant to this Paragraph 6(b) with respect to any Restricted Stock Units which, immediately prior to the record date for that dividend, have either been paid pursuant to Paragraph 8 or forfeited pursuant to the terms of this Award.

7. Nonassignability. Upon the Participant's death, the Restricted Stock Units (or Shares payable in respect thereof) and the Dividend Equivalents shall be transferred to the Participant's designated beneficiary, personal representative or estate as provided in Paragraph 8. Otherwise, the Participant may not sell, transfer, assign, pledge or otherwise encumber any portion of the Restricted Stock Units (or Shares payable in respect thereof) or the Dividend Equivalents, and any attempt to sell, transfer, assign, pledge or encumber any portion of the Restricted Stock Units (or Shares payable in respect thereof) or the Dividend Equivalents shall have no effect.

8. Timing and Manner of Payment of Restricted Stock Units. Subject to the terms of the Plan and this Award, any Restricted Stock Units that vest pursuant to Paragraph 2 shall be released and settled in whole Shares within 60 days of the applicable vesting date by the Company delivering to the Participant (and, in the event of death, as provided in the following sentence of this Paragraph 8) a number of Shares (in such manner as the Committee in its discretion may determine, e.g., by entering such Shares in book entry form, and/or causing the vested Shares to be deposited in an account maintained by a broker designated by the Company) equal to the number of Restricted Stock Units subject to the Award that vest on the vesting date, less tax withholdings as provided under Paragraph 9; provided, that, any Restricted Stock Units that vest on account of the Participant's Approved Separation, Mandatory Retirement or Qualified Termination under Paragraphs 2(b)(ii), (iii) or (iv) shall be released and settled as provided herein, but according to the same payment timing resulting from the normal course vesting schedule set forth in Paragraph 2(a), and in such circumstance the Participant must only be in continuous Employment from the Grant Date to the applicable vesting event (i.e., the Participant's Approved Separation, Mandatory Retirement or Qualified Termination is a vesting event and not a payment event). Notwithstanding the preceding sentence of this Paragraph 8, in the event of death, any Shares that are otherwise deliverable under this Award (including Shares resulting from the vesting of any Restricted Stock Units on account of death) will be distributed to the correlated brokerage account (or the SPS Participant Trust if an international employee) and will be subject to the designated beneficiary on file and then in effect with the recordkeeper for such brokerage (or the SPS Participant Trust, where applicable), or in the absence of a designated beneficiary, to the executor or administrator of the estate.

9. Taxes. Pursuant to the applicable provisions of the Plan, the Company or its designated representative shall have the right to withhold applicable taxes from the Shares otherwise deliverable to the Participant due to the vesting of Restricted Stock Units pursuant to this Award Agreement (to the extent such withholding does not violate Section 409A of the Code), or from other compensation payable to the Participant, at the time of the vesting and delivery of such Shares.

10. No Employment Guaranteed. Nothing in this Award Agreement shall give the Participant any rights to (or impose any obligations for) continued Employment by the Company or any Subsidiary or successor, nor shall it give such entities any rights (or impose any obligations) with respect to continued performance of duties by the Participant.

11. Modification of Agreement. Any modification of this Award Agreement shall be binding only if evidenced in writing and signed by an authorized representative of the Company, provided that no modification may, without the consent of the Participant, adversely affect the rights of the Participant hereunder.

12. Specified Employee; Section 409A of the Code. Notwithstanding any other provision of this Award Agreement to the contrary, if the Participant is a "specified employee" within the meaning of Section 409A of the Code as determined by the Company in accordance with its established policy, any settlement of any amount described in this Award Agreement which would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Participant as a result of the Participant's "separation from service" as defined under Section 409A of the Code (other than as a result of death) and which would otherwise be paid within six months of the Participant's separation from service shall be paid as provided under Section 13.15 of the Plan. The payment of each amount under this Award Agreement is deemed as a "separate payment" for purposes of Section 409A of the Code. For all purposes under this Award, "termination of Employment" and similar terms shall mean "separation from service" as defined and determined under Section 409A of the Code.

13. Definitions. For purposes of this Award Agreement:

"**Approved Separation**" means termination of Employment on or after the date the Participant has attained age 55 and completed five years of Employment, provided, that, the termination of Employment occurs no earlier than the later of: (a) the six month anniversary of the Grant Date; and (b) 90 days after the Participant has provided notice to the Committee or its delegate of the date of his or her termination of Employment. The Committee may, in its sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee under its purview for the grant and administration of the Award, and the Chief Executive Officer of the Company may, in his or her sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee not under the Committee's purview for the grant and administration of the Award.

"**Employment**" means employment with the Company or any of its Subsidiaries. The length of any period of Employment shall be determined by the Company or the Subsidiary that either (a) employs the Participant or (b) employed the Participant immediately prior to the Participant's termination of Employment.

"**Forfeiture Event**" means the occurrence of at least one of the following events: (a) the Company is required, pursuant to a determination made by the Securities and Exchange Commission or by the Audit Committee of the Board, to prepare a material accounting restatement due to the noncompliance of the Company with any financial reporting requirement under applicable securities laws as a result of misconduct, and the Committee determines that (i) the Participant knowingly engaged in the misconduct, (ii) the Participant was grossly negligent with respect to such misconduct or (iii) the Participant knowingly or grossly negligently failed to prevent the misconduct; or (b) the Committee concludes that the Participant engaged in fraud, embezzlement or other similar misconduct materially detrimental to the Company.

"**Mandatory Retirement**" means termination of Employment as a result of the Company's policy, if any, in effect at the time of the Grant Date, requiring the mandatory retirement of officers and/or other employees upon reaching a certain age or milestone.

“**Qualified Termination**” for purposes of this Award Agreement shall have the same definition as under the Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefits Plan, as in effect on the Grant Date, and such definition and associated terms are hereby incorporated into this Award Agreement by reference.

Marathon Petroleum Corporation

By: ______________________
Authorized Officer

Exhibit 10.50

MARATHON PETROLEUM THRIFT PLAN

As Amended and Restated Effective January 1, 2023

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Article I. PREAMBLE

The Marathon Petroleum Thrift Plan (the "Plan") was originally adopted by Marathon Petroleum Company LP effective July 1, 2011. The Plan was most recently amended and restated, effective as of August 1, 2020. Subsequent to that amendment and restatement, the Plan was amended from time to time.

This document amends and restates the entire Plan, effective as of January 1, 2023. This amendment and restatement incorporates the amendments made subsequent to the Plan's August 1, 2020, amendment and restatement.

Except as otherwise provided in the Plan, employees who terminated their employment before the effective date of this amendment and restatement shall, unless otherwise specified in this document, be subject to the terms of the Plan as in effect on the date of their termination of employment.

The purpose of the Plan is to assist employees in maintaining a steady program of savings, in supplementing their retirement income and in meeting their financial emergencies.

Effective as of January 1, 2016, the Speedway Retirement Savings Plan was merged into the Plan. As part of and following the plan merger, the provisions of the Speedway Retirement Savings Plan, although a part of the Plan, were maintained in a separate "sub-plan" document (the "Speedway Retirement Savings Sub-Plan Document" or "RSSP"), and pursuant to same, the rights and benefits of the participants and beneficiaries under the merged Speedway Retirement Savings Plan as in effect immediately prior to the merger continued to be governed by the provisions of the RSSP, as such document was amended from time to time. Likewise, the rights and benefits of the participants and beneficiaries under the Plan outside of the RSSP, continued to be governed by the provisions of the Marathon Petroleum Thrift Plan portion of the Plan document, as such document was amended from time to time.

Effective as of March 28, 2016, the MarkWest Hydrocarbon Inc. 401(k) Savings and Profit Sharing Plan (the "MarkWest Plan") was merged into the Plan, and the participants in and beneficiaries of the MarkWest Plan became subject to the provisions of the Plan, but not as to any part of the RSSP.

Effective as of August 8, 2016, the Savings and Profit Sharing Plan of WilcoHess LLC (the "WilcoHess Plan") was merged into the Plan. Pursuant to such merger, certain of the participants in and beneficiaries of the WilcoHess Plan became subject to the provisions of the Plan, but not any part of the RSSP, and the remaining participants in and beneficiaries of the WilcoHess Plan became subject to the provisions of the RSSP.

Effective as of April 30, 2019, the Andeavor 401(k) Plan (the "Andeavor Plan") was merged into the Plan and the participants in and beneficiaries of the Andeavor Plan became subject to the provisions of the Plan, but not as to any part of the RSSP.

Effective as of April 30, 2019, the Andeavor Retail 401(k) Plan (the "Andeavor Retail Plan") was merged into the Plan's RSSP component and the participants in and beneficiaries of the Andeavor Retail Plan became subject to the provisions of the RSSP, but not as to any other part of the Plan.

Pursuant to the Plan's August 1, 2020, amendment and restatement, the RSSP portion of the Plan was designated as the "Speedway Component." That amendment and restatement also reorganizes the Plan's structure, so as to use a single plan document that (i) provides in the main body of the plan document provisions that are generally applicable to employees, participants, beneficiaries and alternate payees who are not subject to the Speedway Component's provisions, and (ii) provides in a separate "Speedway Component Appendix" to the plan document provisions applicable to the employees, participants, beneficiaries and alternate payees subject to the Speedway Component's provisions.

The Plan provisions that generally apply to the Plan other than the Speedway Component and, to the extent provided herein and not otherwise set forth in the Plan's Speedway Component, the Plan's overall administration continue to be set forth in this primary document, which is the "Primary Plan." Where the term "Plan" is used in the Primary Plan, it shall refer only to such portion of the plan, unless the context or terms indicate or provide otherwise. Also, where the term "Plan" is used in the Speedway Component, it shall refer only to the Speedway Component, unless the context or terms indicate or provide otherwise.

Where the Speedway Component incorporates provisions of the Primary Plan (or where such incorporation is required by the context), relevant terms in the Speedway Component shall be as defined in the Primary Plan – for example, "member" and derivations thereof in the Primary Plan shall include and mean "Participant" as used in the Speedway Component, etc.

Effective May 14, 2021, Marathon Petroleum Corporation sold Speedway LLC and certain of its affiliates to 7-Eleven, Inc. As a result of that transaction, effective May 14, 2021, (i) Marathon Petroleum Company LP retained sponsorship of the Plan, including the Speedway Component portion of the Plan; (ii) Speedway LLC and its affiliates ceased participation in the Plan as Employers under the Speedway Component; (iii) and all of Speedway LLC's and its affiliates' employee Participants ceased eligibility to actively participate in the Plan and were deemed to have had a severance from employment pursuant to applicable provisions of the Internal Revenue Code; and (iv) no additional employee deferrals or after-tax contributions and no additional employer contributions are made to the Plan under its Speedway Component with respect to such Participants.

Article II. ELIGIBILITY

2.01 Any employee of Marathon Petroleum Company LP (the "Company") or a Participating Employer is eligible to become a member of the Plan, except:

A. any employee covered by a collective bargaining agreement with a Participating Employer that does not expressly provide for the employee's participation in the Plan, provided that retirement benefits were the subject of good faith negotiation between the applicable Participating Employer and the employee's collective bargaining representatives;

B. any employee compensated through a leasing entity, whether or not the leased employee falls within the definition of "leased employee" as defined in Section 414(n) of the Internal Revenue Code of 1986 (the "Code"); and

C. any individual who has signed an agreement, or has otherwise agreed to provide services to a Participating Employer as an independent contractor, regardless of the tax or other legal consequences of such an arrangement.

Prior to January 1, 2014, an employee was also required to be at least age 21 and to have completed one year of vesting service in order to become a member. That requirement was eliminated effective as of January 1, 2014. Beginning on January 1, 2014, student workers were not eligible to become a member of the Plan; that restriction was eliminated effective as of January 1, 2016. For purposes of this Plan, the term "member," unless otherwise described, shall mean Active Members, Members with Account(s) in Suspense, Retired Members, and Non-employee Members, all as defined in Article IV.

2.02 For purposes of the Plan, the following terms have the meanings set forth below:

A. "Andeavor-Acquired Employees" means active employees of Andeavor and its subsidiaries as of 11:59 P.M., September 30, 2018 (including employees of Andeavor and its subsidiaries who were on a leave of absence as of 11:59 P.M., September 30, 2018) and who on October 1, 2018, or soon thereafter, as a direct result of the closing of Marathon Petroleum Corporation's acquisition of

Andeavor, became employees of the Company's Controlled Group and remained in such employee status as of 12:01 A.M., January 1, 2019.

In addition, former employees of Andeavor and its subsidiaries who as a result of being transferred, newly hired or rehired by Andeavor and its subsidiaries and who subsequently became employees of the Company's Controlled Group are also considered Andeavor-Acquired Employees, provided, that their transfer, hire or rehire dates were during the period from October 1, 2018, through the end of the day on December 31, 2018, and, provided, further, that they remained in such employee status as of 12:01 A.M., January 1, 2019.

B. "Controlled Group" means any entity or organization required to be aggregated with the Company pursuant to Code Section 414(b), (c), (m), (n), or (o). Within this Plan document, the term "Controlled Group" refers to the Controlled Group to which the Company belongs, as in effect from time to time.

C. "Service Year" means a twelve month period beginning on the date an employee first performs an Hour of Service and ending on the anniversary of that date. Following an employee's first employment year, Service Year will be calculated based on the Plan Year. The first Plan Year measured is the Plan Year that begins coincident with or next following the date the employee first performs an Hour of Service.

D. "Participating Employer" means Marathon Petroleum Company LP; Marathon Petroleum Service Company; Marathon Pipe Line LLC; Marathon Petroleum Logistics Services LLC; MW Logistics Services LLC; Marathon Refining Logistics Services LLC; and Treasure Card Company LLC.

E. "Hours of Service" means the hours for which an employee is directly or indirectly paid, or entitled to payment, by an employer in the Controlled Group for performing duties during the applicable Service Year and for reasons other than performance of duties, including each hour for which back pay, irrespective of mitigation of damages, has either been awarded or agreed to by the employer, such hours to be credited and calculated in accordance with Department of Labor Regs. Section 2530.200b-2. In the event a member performed services for an employer formerly in the Controlled Group, Appendix A provides additional provisions with respect to the Plan's service crediting rules. Notwithstanding any provision of this Plan to the contrary, service credit with respect to qualified military service (as defined in Article XVI) will be provided in accordance with Code Section 414(u).

Article III. JOINING THE PLAN

Participation in the Plan is entirely voluntary and any employee who has satisfied the eligibility requirements of Article II is eligible to participate in the Plan. An eligible employee may commence participation by completing and properly submitting a valid pay reduction agreement by which the member elects to make Pre-Tax Contributions, After-Tax Contributions, or Roth Deferral Contributions, or by electing to make a Rollover Contribution in accordance with Section 5.02D. The member's initial deferral election and any subsequent elections shall be effective as of the first day of the first payroll period for which it is administratively practicable to implement that election after the date it is received by the Plan Administrator or its delegate.

Article IV. CLASSES OF MEMBERSHIP

The manner in which a member is permitted to direct their account(s) depends on the class of membership to which the member belongs. These classes of membership are:

A. **Active Member**. An eligible employee of a Participating Employer is an Active Member for any period during which the employee is receiving Compensation and has elected to make contributions to the Plan in accordance with Article III.

B. **Member with Account(s) in Suspense**. A member who (i) transfers at the request of his or her Participating Employer to a non-Participating Employer within the Controlled Group (including a member who is reclassified into a position with a Participating Employer that is excluded from participation in this Plan), or (ii) is an eligible employee of a Participating Employer and has voluntarily or involuntarily (for example, a member on approved leave who is not receiving Compensation) had member contributions suspended or had contributions suspended pursuant to Section 13.05, will have their account(s) held in suspense. A Deferred Member who is subsequently rehired by a non-Participating Employer in the Controlled Group will be considered a Member with Account(s) in Suspense. A member who transferred at the request of his or her Participating Employer to a non-Participating Employer who is required to be aggregated with Marathon Oil Corporation pursuant to Code Section 414(b), (c), (m), (n), or (o) (the "MOC controlled group") before July 1, 2011 and whose balance under the Marathon Oil Company Thrift Plan was transferred to the Plan in connection with the spin-off of Marathon Petroleum Corporation from Marathon Oil Corporation ("MOC") is also a Member with Account(s) in Suspense.

The definition of Member with Account(s) in Suspense includes an employee who was an Active Member but whose status is changed from a common law employee to a leased employee (as defined in Code Section 414(n)(2)) of a Participating Employer and/or a member of the Controlled Group.

The definition of Member with Account(s) in Suspense also includes all Scurlock Permian employees who on the closing date of the sale of Scurlock Permian (May 18, 1999) continue in employment with Scurlock Permian, the purchasing company or any affiliated company.

C. **Retired Member**. On and after January 1, 2016, any member who terminates employment from a member of the Controlled Group either (i) on or after attaining age 50, with ten years of vesting service (as determined under Article XI), or (ii) on or after attaining age 65, is a Retired Member for purposes of this Plan until the entire balance of the member's Account(s) is distributed. A member who retired (and was considered a retired member under the terms of the Marathon Oil Company Thrift Plan) prior to July 1, 2011 from a member of the MOC controlled group and whose balance under the Marathon Oil Company Thrift Plan was transferred to the Plan in connection with the spin-off of Marathon Petroleum Corporation from MOC is also a Retired Member. A member who terminated employment from a member of the Controlled Group prior to January 1, 2016 and on or after attaining age 50, with three years of vesting service (as determined under Article XI), is a Retired Member for purposes of this Plan until the entire balance of the member's Account(s) is distributed. A Retired Member with a vested Plan balance of $5,000 or less may maintain an open Thrift account(s) until no later than 60 days after their retirement date.

D. **Non-employee Member**. Non-employee Members include the following membership types:

1. Deferred Member. A Deferred Member is any member who terminates employment with all members of the Controlled Group, does not qualify as a Retired Member, and continues to maintain an open account. Deferred Members who have a vested Plan balance of $5,000 or less may maintain open accounts until no later than 60 days after their date of termination of employment. All other Deferred Members may maintain open accounts until no later than the April 1 immediately following the calendar year in which such members attain age 70½.

   Notwithstanding anything to the contrary in the Plan, a MarkWest Employee (as defined in Appendix F) who terminated employment with MarkWest Hydrocarbon, Inc., (or a predecessor employer) prior to December 4, 2015, shall be a Deferred Member; provided however, that if such MarkWest Employee becomes employed by a member of the Controlled Group on or after December 4, 2015, his or her membership status shall be determined by the terms of the Plan.

   Notwithstanding anything to the contrary in the Plan, an Andeavor Employee (as defined in Appendix G) who terminated employment with Andeavor LLC (or an affiliate or predecessor thereof that was a participating employer in the Andeavor 401(k) Plan) prior to May 1, 2019, shall be a Deferred Member; provided, however, that if such Andeavor Employee becomes employed by a member of the Controlled Group after April 30, 2019, his or her membership status shall be determined by the terms of this Plan

2. Spouse Beneficiary Member. Spouse Beneficiary Member is a beneficiary who was the spouse of an Active Member, Retired Member, or a Member with Account(s) in Suspense at the time of such member's death. A Spouse Beneficiary Member who has a Plan balance of $5,000 or less may defer final settlement of their Thrift Account(s) until no later than 60 days after the close of the Plan Year during which they became a Spouse Beneficiary Member. All other Spouse Beneficiary Members may maintain open accounts for their lifetime, subject to the minimum distribution requirements of Code Section 401(a)(9).

3. Beneficiary Member. Beneficiaries, including beneficiaries of Spouse Beneficiary Members (designated by the member or provided under the terms of this Plan), who have a Plan balance of $5,000 or less may defer final settlement of their account(s) until no later than 60 days after the close of the Plan Year during which they become a Beneficiary Member. All other Beneficiary Members may maintain open accounts until no later than the fifth anniversary of the date of the member's death, subject to the minimum distribution requirements of Code Section 401(a)(9).

4. Alternate Payee Member. An Alternate Payee Member is an individual who becomes a member as the result of a Qualified Domestic Relations Order. Effective January 9, 2012, if a withdrawal of the Alternate Payee Member's account balance has not been made earlier, then Alternate Payee Members will receive an automatic distribution of the account balance from the Plan no later than 180 days after the account has been established. An Alternate Payee Member with a Plan balance of $5,000 or less may maintain an open account(s) until no later than 60 days after becoming such a member or as soon as administratively feasible thereafter when a distribution may be processed.

Article V. MEMBER CONTRIBUTIONS

5.01 General. A member may elect to change the rate of their contributions or to voluntarily suspend or resume their contributions at any time with each change becoming effective as soon as administratively practicable after the member has validly filed a pay reduction agreement with the Plan Administrator.

5.02 Types of Contributions. Subject to the provisions of Section 5.03 regarding elections as to specified bonus Compensation, members may make the following types of contributions to the Plan:

A. **Pre-Tax Contributions**. Each Active Member may elect to make Pre-Tax Contributions from 1% to 75% (in whole percentages only) of Compensation. This election may be changed at any time, including automatically through a member's election to participate in the Automatic Increase Program as specified in Section 5.04. Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 5.02A., 5.02B., 5.02C., and 5.05 is 75%.

B. **After-Tax Contributions**. Unless otherwise prohibited by the Code, each Active Member may elect to make After-Tax Contributions from 1% to 75% (in whole percentages only) of Compensation; provided, however, that an Active Member who is a highly compensated employee (as defined in Section 5.04C.) may only elect to make After-Tax Contributions from 1% to 6% (in whole percentages only) of Compensation. This election may be changed at any time, including automatically through a member's election to participate in the Automatic Increase Program as specified in Section 5.05. Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 5.02A., 5.02B., 5.02C. and 5.06 is 75%.

C. **Roth Deferral Contributions**. Each Active Member may elect to make Roth Deferral Contributions from 1% to 75% (in whole percentages only) of Compensation. This election may be changed at any time, including automatically through a member's election to participate in the Automatic Increase Program as specified in Section 5.05. Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 5.02A., 5.02B., 5.02C., and 5.05 is 75%. See Appendix E for more details regarding the terms and conditions that apply to Roth Deferral Contributions.

D. **Rollover Contributions or Direct Plan Transfer Contributions**. Active Members, Members with Account(s) in Suspense, and Retired Members may make Rollover Contributions or Direct Plan Transfer Contributions of qualified distributions from any tax-qualified plan or any IRA holding amounts described in Code Section 408(d)(3)(A)(ii). However, Roth Rollover Contributions will only be accepted from another tax-qualified plan described in Code Section 401(a). The Plan will not accept Rollover Contributions or Direct-Plan Transfer Contributions from a Code Section 403(a) plan or a Roth IRA. For purposes of this Section 5.02D., "tax-qualified plan" shall mean:

- a qualified plan described in Code Section 401(a) or 403(b), including after-tax employee contributions.
- an eligible plan under Code Section 457(b) which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

Deferred Members, and prior Deferred Members, may also make Rollover Contributions (but not Direct Plan Transfer Contributions), from any of the above.

Individuals who are eligible to become Active Members, but have elected not to contribute to the Plan or have previously elected to withdraw their entire account balance are permitted to make Rollover Contributions to the Plan. The Plan may also accept Rollover Contributions from prior Members with Account(s) in Suspense and Retired Members who previously closed their Plan Account(s).

Subject to Plan Administrator approval, Spouse Beneficiary Members have the right to roll over distributions from qualified retirement plans sponsored by any employer whereby the Plan has recognized vesting time for prior service of the deceased member. This right is limited solely to Spouse Beneficiary Members as permitted by applicable laws and regulations.

All such Rollover Contributions or Direct Plan Transfer Contributions must consist of cash, unless the Plan Administrator agrees, in its sole discretion, to accept any property other than cash. The member must submit written certification that the Rollover Contribution qualifies as a Rollover Contribution.

Rollover Contributions must be made by the member within 60 days after the member has received their distribution from the applicable eligible retirement plan.

5.03 Separate Election as to Specified Bonus Compensation

The Company shall allow an Active Member upon proper notice and approval to enter into a special pay reduction agreement to make contributions of the types otherwise permitted under Sections 5.02A, 5.02B and 5.02C from any Participating Employer paid cash bonuses that constitute Compensation and that are designated by the Company on a uniform and nondiscriminatory basis that are made for such Active Members during the Plan Year in an amount from 1% to 75% (in whole percentages only) of such bonuses. Unless an Active Member has entered into a special pay reduction agreement with respect to bonuses, the percentage deferred from any Employer paid cash bonus shall be 0%.An Active Member's contributions under this Section 5.03 may not cause the Active Member to exceed the percentage limit specified the applicable limit in Section 5.02.

5.04 Limitations on Member Contributions

A. **In General**. Subject to adjustments by the Plan Administrator to comply with the provisions of the Code, an Active Member may make Pre-Tax Contributions, After-Tax Contributions, and Roth Deferral Contributions as specified in Sections 5.02A, 5.02B, and 5.02C, and may also make Catch-Up Contributions as specified in Section 5.06.

Contributions to the Plan will be elected in percentages of Compensation. "Compensation" shall mean all wages, salaries and other amounts received (without regard to whether or not an amount is paid in cash) for personal services actually rendered by an eligible employee in the course of employment with the Participating Employer to the extent that the amounts are includible in the eligible employee's gross income for federal income tax purposes, and, shall only include remuneration items that constitute compensation within the meaning of Code Section 415(c)(3) and Treasury Regulations Section 1.415(c)-2 including, but not limited to:

(i) geographic pay differentials, comp time, location premiums, commissions and bonuses;
(ii) Differential Pay (as defined below);

(iii) the Marathon Petroleum Company LP Success Through People (STP) payouts;
(iv) sick pay (including short-term disability payments made by a Participating Employer), vacation pay, or holiday pay; and
(v) except as otherwise provided herein, any other annual incentive compensation programs as may be established by the Company and other Participating Employers from time to time.

The foregoing inclusions are to be interpreted to comply with Treasury Regulations Section 1.415(c)-2(b), as modified by Treasury Regulations Sections 1.415(c)-2(d)(2) and 1.414(s)-1(c)(3). Compensation shall also include amounts that are not includible in the eligible employee's gross income under a salary reduction agreement by reason of the application of Code Sections 125, 132(f)(4), 402(e)(3), 402(h)(1)(B), or 457(b).

Where an eligible employee terminates employment with the Controlled Group, Compensation shall include regular compensation for services actually performed during regular working hours (including, but not limited to, overtime, commissions, geographic pay differentials, comp time, location premiums and bonus compensation) that is paid after employment termination solely because the applicable pay date occurs after the employee's employment is terminated, but shall not include, in any circumstance, (i) amounts paid after the later of the end of the Plan Year that includes the employee's employment termination date or 2½ months after the employment termination date, (ii) remuneration for accrued vacation or other leave paid after the employment termination date; (iii) salary continuation paid after the employment termination date; or (iv) severance pay paid after the employment termination date.

Differential Pay means any payment made by a Participating Employer to an eligible employee with respect to any period during which the eligible employee is performing service in the uniformed services (as defined in USERRA) while on active duty for a period of more than 30 days, the amount of which represents the difference, if any, between the wages the eligible employee would have received from the Participating Employer if the eligible employee were performing service for the Participating Employer and the military pay the eligible employee receives while on active duty performing service in the uniformed services.

Notwithstanding anything to the contrary, Compensation for any eligible employee does not include the following remuneration items:

(i) amounts includible in an eligible employee's gross income for federal income tax purposes under the rules of Code Section 409A or Code Section 457(f)(1)(A) or because the amounts are constructively received by the employee;
(ii) reimbursements and allowances for expenses, including (but not limited to) relocation expenses, company-paid parking and transportation expenses, certain tax allowances specified as not eligible compensation by the Participating Employer, moving expenses and automobile allowances, whether or not includible in gross income for federal income tax purposes;
(iii) fringe benefits (cash and noncash), deferred compensation (including, but not limited to, performance share awards), certain employee prizes specified as not eligible compensation by the Participating Employer (including awards such as Marawards), company-paid premiums for group term life insurance (whether or not includible in gross income for federal income tax purposes), and welfare benefits (exclusive of short-term disability benefits paid by a Participating Employer);

(iv) employer contributions to a deferred compensation plan (whether non-qualified and unfunded or tax-qualified) to the extent that the contributions are not includible in the eligible employee's gross income for federal income tax purposes for the taxable year in which contributed;
(v) distributions from a deferred compensation plan (whether non-qualified and unfunded or tax-qualified), whether or not includible in the eligible employee's gross income for federal income tax purposes;
(vi) amounts realized from the exercise of a non-qualified stock option or when restricted stock or other property held by the eligible employee either becomes freely transferrable or is no longer subject to a substantial risk of forfeiture;
(vii) amounts realized from the disposition of stock acquired under a qualified stock option;
(viii) other amounts that receive special tax benefits; and
(ix) severance payments made to the eligible employee after the employee's employment termination date.

The foregoing exclusions are to be interpreted to comply with Treasury Regulations Section 1.415(c)-2(c), as modified by Treasury Regulations Sections 1.415(c)-2(d)(2) and 1.414(s)-1(c)(3). The maximum annual Compensation recognized by the Plan for an eligible employee may not exceed the amount set forth under Code Section 401(a)(17), as adjusted from time to time in accordance with the law. Compensation means gross pay during the Plan Year or such other consecutive 12-month period over which gross pay is otherwise determined under the Plan (the "determination period"). Any adjustment in accordance with the law in effect for a calendar year applies to Compensation for the determination period that begins with or within such calendar year. Additionally, in applying the annual Compensation limit under Code Section 401(a)(17) to a member's Compensation for purposes of Plan contributions, the member's Compensation for such purpose shall be determined on the basis of the earliest payments of Compensation during the Plan Year (the calendar year).

B. **Maximum Deferrals**. Pre-Tax Contributions and Roth Deferral Contributions, including any contributions to this Plan, or any other qualified plan maintained by an employer in the Controlled Group, that exceed the limit under Code Section 402(g), will not be permitted and, subject to appropriate adjustment for any gains or losses through December 31 of the year of the excess, or the date of return, if earlier, will be returned to the affected member no later than April 15 of the year following the year in which the excess occurred. Any references in this Plan to the amount of excess Pre-Tax Contributions and Roth Deferral Contributions that are to be distributed pursuant to this Section 5.04 shall be interpreted to include the appropriate adjustment for gains and losses described above.

C. **Limitations on After-Tax Contributions**. After-Tax Contributions must satisfy the Actual Contribution Percentage ("ACP") test of Code Section 401(m), which is incorporated herein by reference. The Plan elects to use the current year testing method for the ACP test.

In the event that the ACP test is not satisfied, any excess After-Tax Contributions (referred to as "ACP test contributions"), and adjustment for any gains or losses attributable to the ACP test contributions for the year in which the excess occurred, shall be distributed no later than the end of the Plan Year following the Plan Year in which the failure occurred. Excess ACP test contribution amounts shall be determined by ranking all highly compensated employees in descending order based on the dollar amount of their ACP test contributions. ACP test contributions of the highly compensated employee with the highest dollar amount of ACP test contributions shall be reduced until the amount is equal to the ACP test contributions of the highly compensated employee with the next highest dollar amount. This procedure is repeated until all excess ACP test contributions are identified and distributed from the Plan.

The term "highly compensated employee" means any employee who was a "5-percent owner" as defined in Code Section 416(i) at any time during either the current Plan Year or the preceding Plan Year, or who received Gross Pay (as defined in Section 7.02 of the Plan) for the preceding Plan Year in excess of $135,000 (for a 2023 Plan Year determination) and was a member of the top-paid group for such preceding Plan Year. The following additional rules shall apply:

(i) The dollar threshold set forth in this Section 5.04C. shall be increased to reflect any cost of living adjustments implemented by the Secretary of the Treasury pursuant to Code Section 415(d). The applicable dollar amount shall be the dollar amount for the calendar year in which the relevant Plan Year begins.

(ii) Former employees who were Highly Compensated Employees either when they separated from service (or have a deemed separation within the meaning of regulations promulgated under Code Section 414(q)) or at any time after reaching an attained age of 55 shall always be considered Highly Compensated Employees.

(iii) Leased Employees who are covered by a "safe harbor" plan and who are not participants in any tax-qualified plan (under Code Section 401(a)) of the Controlled Group shall be included as employees for purposes of subparagraph (ii).

The determination of who is a Highly Compensated Employee, including the determinations of the number and identity of employees in the "top-paid group", shall be made in accordance with Code Section 414(q) and the Treasury Regulations issued thereunder.

5.05 Automatic Increase Program

Active Members may elect to enroll in a program that will automatically increase their rate of contributions on an annual basis. A member choosing to participate in the program must elect an increase amount, in whole percentages of Compensation only, and a date on which the increase is to be applied each year (for example, increase member contributions by 2% of Compensation each April 1). Subject to the Plan and statutory limits, the increase will be applied to the member's election for Pre-Tax Contributions and Roth Deferral Contributions to the extent possible and then to the member's After-Tax election. A member may elect to voluntarily terminate his or her participation in this program at any time. Any election to voluntarily terminate participation in the program shall become effective as soon as administratively practicable after the election has been properly made with the Plan Administrator.

5.06 Catch-Up Contributions

Each Active Member who has attained or is expected to attain age 50 before the close of the taxable year shall be eligible and will be permitted to make Catch-Up Contributions to the Plan in accordance with and subject to the limitations of Code Section 414(v). Catch-Up Contributions shall not be taken into account for purposes of the provisions of the Plan implementing the required limitations of Code Sections 402(g) and 415. No separate election for Catch-Up Contributions is required; an eligible Active Member's election as to Pre-Tax Contributions and/or Roth Deferral Contributions shall continue to apply as to the amount of such contributions that are treated as Pre-Tax Catch-Up Contributions and/or Roth Deferral Catch-Up Contributions.

5.07 Roth In-Plan Conversion

An Active Member, Member with Account in Suspense, Retired Member, Deferred Member, Spouse Beneficiary Member, or Alternate Payee Member (who is the former spouse of a member) may elect, in accordance with rules prescribed by the Plan Administrator, to roll over ("convert") to a designated Roth subaccount all or a portion of their Plan account consisting of vested amounts that are distributable and eligible for rollover and vested amounts that are not otherwise distributable, in each case exclusive of any amounts that are currently held in any designated Roth subaccount under the Plan. Any such election will be irrevocable. Conversions will be processed as in-kind transactions. The Plan designated Roth subaccounts used for such conversions will be established by the Plan Administrator and currently are as follows:

A. Roth In-Plan Conversion Account, which is an unrestricted account for conversions of vested account balances or portions thereof, provided, that such conversion amounts are not from Pre-Tax Account, Pre-Tax Catch-Up Contribution Account, and Safe Harbor Matching Contribution Account sources;

B. Roth In-Plan Conversion Employee Account, which is a restricted account limited to conversions of vested account balances or portions thereof from Pre-Tax Account and Pre-Tax Catch-Up Contribution Account sources; and

C. Roth In-Plan Conversion Employer Account, which is a restricted account limited to conversions of vested account balances or portions thereof from the Safe Harbor Matching Contribution Account source.

The designated Roth subaccount will not otherwise accept contributions or rollovers (other than conversion type rollovers as provided for in this Section 5.07).

Outstanding loan balances, and amounts held in the Plan's BrokerageLink investment option are not eligible for conversion.

Converted amounts attributable to non-distributable amounts will continue to be subject to the same distribution restrictions that applied prior to conversion, and no conversion under this Section 5.07 will eliminate any Code Section 411(d)(6) protected distribution rights attributable to the amount converted.

Amounts converted will be included in gross income of the member to the extent they would be included in gross income as if distributed in the year of conversion.

The provisions of this Section 5.07 with respect to amounts that are not otherwise distributable, as permitted under Code Section 402A(c)(4)(E), are intended to comply in good faith with such Code provision and the guidance applicable to same.

Article VI. MATCHING CONTRIBUTIONS

Each Participating Employer shall make Matching Contributions for its members for each pay period as provided in this Article VI. With respect to each of its Active Members, each Participating Employer shall, for any given pay period, match the Pre-Tax Contributions, After-Tax Contributions and Roth Deferral Contributions of such Active Member for that pay period up to a maximum of 6% of the Active Member's Compensation for the pay period, at the rate of $1.17 per each eligible dollar contributed by the Active Member; provided, however, that the Participating Employer shall not contribute Matching Contributions on behalf of a member who is covered by a collective bargaining agreement with the Participating Employer unless the Participating Employer has entered into a definitive agreement with a member's union expressly requiring the Participating Employer to contribute matching contributions. On account of this pay-period-by-pay-period basis administration of Matching Contributions, there will be no true-up of Matching Contributions at the end of the Plan Year with respect to any member such that, e.g., a member's aggregate Matching Contributions for the Plan Year are trued-up to equal the amount determined under the Matching Contribution formula (that is, up to 6% of Compensation, at the rate of $1.17 per dollar contributed) using the member's Compensation and eligible contributions determined on a Plan Year basis and not a pay period basis. On account of Matching Contributions now being Safe Harbor Matching Contributions intended to satisfy the "safe harbor" requirements of Code Sections 401(k)(12) and 401(m)(11), and on account of such Matching Contributions being made on a pay period basis, the Participating Employer shall remit any Matching Contributions made during a Plan Year quarter to the Trustee no later than the last day of the immediately following Plan Year quarter. No Matching Contributions shall be made on a member's Rollover Contributions or Direct Plan Transfer Contributions.

Article VII. MAXIMUM CONTRIBUTIONS LIMITATION

7.01 General. The annual addition that may be contributed or allocated to a participant's Thrift account(s) for any limitation year shall not exceed the lesser of:

(a) $66,000, as automatically increased as of January 1 of any calendar year to reflect any cost-of-living adjustment or other increase authorized by the Secretary of the Treasury or his delegate, or

(b) 100% of the participant's Gross Pay, as defined in this Article VII of the Plan.

The limit referred to in (b) shall not apply to any contribution for medical benefits after severance from employment (within the meaning of Code Section 401(h) or Code Section 419A(f)(2)), which is otherwise treated as an annual addition.

7.02 For purposes of the limitation in Section 7.01, a member's Gross Pay shall include the member's wages, salaries, fees for professional service, and other amounts received for personal services actually rendered in the course of employment with the Participating Employer or any of the members of the Controlled Group (including, but not limited to, geographic pay differentials, comp time, location premiums, commissions paid salesmen, compensation for services on the basis of a percentage of profits, commissions on insurance premiums, tips, and bonuses) and elective deferrals under Code Sections 125, 132(f)(4), 402(e)(3), 402(h)(1)(B), 402(k), and 457(b). A member's Gross Pay shall also include amounts described in Code Sections 104(a)(3), 105(a), or 105(h), but only to the extent includable in the member's gross income; nondeductible reimbursed moving expenses; amounts includible in the member's gross income upon grant of a nonstatutory stock option, or an election under Code Section 83(b); and amounts includible in the member's gross income as constructively received under the rules of Code Section 409A or 457(f)(1)(A). However, a member's Gross Pay shall exclude such items as employer contributions to a qualified plan of deferred compensation, income realized from the exercise of a non-qualified stock option, income realized from the disposition of stock acquired under an incentive stock option, and reimbursed deductible moving expenses. Gross Pay, for the purposes of the foregoing limitation, shall also include: amounts paid or made available after a member's severance from employment, required to be included under Treasury Regulations Section 1.415(c)-2(e)(3)(i) and 1.415(c)-2(e)(3)(ii); gross pay to a member who does not currently perform services for the Participating Employer by reason of qualified military service (as defined in Article XVI) made in accordance with the Participating Employer's current policy with regard to such qualified military service, to the extent these payments do not exceed the amount the individual would have received if the individual had continued to perform services for the Participating Employer rather than entering qualified military service, in accordance with Treasury Regulations Section 1.415(c)-2(e)(4); and payments of back pay within the meaning of

Treasury Regulations Section 1.415(c)-2(g)(8). This definition of Gross Pay is intended to comply with Treasury Regulations Section 1.415(c)-2.

For purposes of compliance with Code Section 414(u), a member's Gross Pay shall include differential wage payments (as defined in Code Section 3401(h)(2)) from the Employer.

7.03 Prevention of Excess Annual Additions

Notwithstanding the foregoing, the otherwise permissible annual addition for any member under this Plan may be reduced to the extent necessary, as determined by the Plan Administrator, to prevent disqualification of the Plan under Code Section 415, which imposes limitations on the benefits payable to members who also may be participating in another tax-qualified pension, thrift savings, or employee stock ownership plan maintained by the Company or any of the members of the Controlled Group.

For purposes of this Article VII the term "annual addition" means the sum of:

A. Employer contributions (including Pre-Tax Contributions),
B. All employee contributions (but excluding Catch-Up and Rollover Contributions), and
C. Forfeitures.

Article VIII. ACCOUNTING AND INVESTMENT OF FUNDS

8.01 Accounts

Contributions to the Plan shall be accounted for with a separate account maintained for each member to which contributions and earnings thereon will be credited so as to provide separate accounting and allocations of gains and losses for each member relative to the following accounts:

A. **Pre-Tax Account**. This account contains all Pre-Tax Contributions (which may include Direct Plan Transfer Contributions from a Code Section 401(k) account) and the related earnings.

B. **Pre-Tax Catch-Up Contribution Account**. This account contains all Pre-Tax Catch-Up Contributions made by eligible members and the related earnings.

C. **After-Tax Account**. This account contains (1) all post-1986 After-Tax Contributions (including the tax-paid employee contribution portion of the 1987 ESOP Direct Plan Transfer Contributions and Retroactive After-Tax Contributions made after 1986), and (2) all pre-1987 tax-paid contributions plus the related earnings. A separate subaccount of this account contains the pre-1987 tax-paid contributions and the related earnings.

D. **Roth Deferral Contribution Account**. This account contains Roth Deferral Contributions, which are described in Appendix E, and the related earnings.

E. **Rollover Account**. This account contains monies contributed to the Plan as the result of a rollover from another tax-qualified plan or an IRA holding amounts described in Code Section 408(d)(3)(A)(ii) and the related earnings, except for Roth deferral amounts that have been rolled over from another tax-qualified plan.

F. **Company Matching Account**. This account contains all Matching Contributions and the related earnings made to the Plan with respect to periods prior to January 1, 2016. Amounts held in the Company Matching Account are not intended to satisfy the "safe harbor" requirements of Code Sections 401(k)(12) and 401(m)(11).

G. **Roth Catch-Up Account**. This account contains all Roth Catch-Up Contributions made by eligible members and the related earnings.

H. **Roth Rollover Account**. This account contains Roth deferral amounts that have been rolled over from another tax-qualified plan and the related earnings.

I. **Roth In-Plan Conversion Account**. The portion of a member's Account which contains amounts that have been converted pursuant to Section 5.07 and any investment earnings and losses thereon and which will consist of the applicable designated Roth subaccounts as provided for under Section 5.07 and as may further be determined from time to time by the Plan Administrator.

J. **Safe Harbor Matching Contribution Account**. This account contains all Matching Contributions and the related earnings made to the Plan with respect to periods on or after January 1, 2016. Amounts held in this account are intended to satisfy the "safe harbor" requirements of Code Sections 401(k)(12) and 401(m)(11).

K. **Other Accounts**. The Plan Administrator shall establish and maintain other accounts as necessary to depict accurately a member's interest under the Plan.

For purposes of this Plan, the terms "account" or account(s), unless otherwise defined, shall mean each of the accounts listed above.

8.02 Investment of Accounts

Members may direct the investment of their contributions and their existing account balance amounts in active investment options in whole increments of 1%. For this purpose, active investment options include:

A. Marathon Petroleum Corporation Common Stock Fund. Invests in Marathon Petroleum Corporation Common Stock, and a small portion may also be invested in cash for liquidity purposes.

B. Designated Investment Options. A Designated Investment Option is any investment fund or product designated by the Investment Committee. "Designated Investment Options" may include (without limitation) a mutual fund, interest in a collective fund or another commingled vehicle, separately managed account, or managed account option.

The Investment Committee may at any time and from time to time, without amending the Plan, select, add, substitute, remove or specify any limitation regarding investment (including, but not limited to, the percentage or amount of the member's Plan account that may be invested an investment fund, or whether an investment fund is closed to the investment of additional contributions) or otherwise, in its sole and absolute discretion, the investment funds that constitute the Designated Investment Options and the Marathon Petroleum Corporation Common Stock Fund in which contributions may be invested pursuant to the member's investment directions. Members who have not provided an investment direction to the Plan Administrator for any reason shall have their Accounts invested as determined by the Plan Administrator in a "Default Investment Fund." The Default investment Fund is intended to be a Qualified Default Investment Alternative as that term is defined in regulations issued pursuant to Section 404(c)(5) of Employee Retirement Income Security Act of 1974, as amended ("ERISA"). The investments shall be made and administered by the Trustee or, if applicable, an Investment Manager.

The Investment Committee shall not be obligated to substitute alternatives of similar investment criteria for existing funds, nor shall it be obligated to continue the types of investments presently available to the Participants. Nothing contained herein shall constitute any action by the Investment Committee as a direction of investment of the assets or an attempt to control such direction.

The Plan Administrator may prescribe procedures (including any rules, restrictions, or requirements) for investment directions and changes to investment directions by members from time to time in its sole discretion. To the extent the Plan Administrator procedures provide, members shall provide investment directions to the administrative delegate and the administrative delegate shall carry out such direction without obtaining prior confirmation or authorization from the Plan Administrator.

Subject to such procedures as may be prescribed by the Plan Administrator in its sole discretion from time to time, an investment direction will be given effect as soon as is administratively practicable after receipt of the member's investment direction.

Notwithstanding the forgoing, the Plan Administrator may, at its own discretion, impose any rules, restrictions, and requirements regarding the members' investment directions and changes in their investment directions. The Plan Administrator may decline to implement a member's investment direction, or may override an existing investment direction, where it deems appropriate in its sole discretion, including without limitation in circumstances where following (or continuing to follow) an investment direction (i) would result in a prohibited transaction described in ERISA Section 406 or Code Section 4975, (ii) would generate taxable income to the Plan, or (iii) result in violations of market timing or frequent trading rules imposed by any manager or other provider of an active investment option.

All investment elections made by a member will apply to all accounts (except Rollover Contributions and Roth In-Plan conversions) a member contributes to and will also apply to Matching Contributions.

All dividends and interest will be directed to the option that generated such dividend and interest even if the member is no longer contributing to that option.

The Plan Administrator intends for the active investment options to qualify as participant-controlled accounts under ERISA Section 404(c). To the extent that the Investment Committee, the Trustee and any Investment Manager follow the directions of a Plan member or former member (including any beneficiary or former beneficiary) with respect to any acts involving an investment fund, then neither the Investment Committee, the Trustee, nor the Investment Manager shall be liable for any loss or damage, or by reason of any breach, that arises from such individual's exercise or non-exercise of their rights under this Section 8.02 over the assets in their Plan account, as provided in ERISA Section 404(c).

Article IX. TRANSFERS

Subject to such procedures as may be prescribed by the Plan Administrator in its sole discretion from time to time, a member may at any time direct the Trustee to sell any or all of the assets in the member's account(s) in whole percentages, units, or dollar increments and at the same time inform the Trustee how to distribute the proceeds of such sale into investment options.

The member may direct the Trustee to execute investment transfers at a frequency no greater than the periodicity of transfers limit formally approved by the Plan Administrator. When the member directs the Trustee to buy or sell investments, the member will receive or pay the unit or share price when executed.

Article X. STOCK OPTIONS, RIGHTS OR WARRANTS

If any options, rights, or warrants are granted or issued with respect to shares of stock, the Trustee shall give the members for whom the stock is held a reasonable opportunity after notice to direct the Trustee to exercise the options, rights, or warrants. If no instructions are received from the member, the Trustee may sell the option, right, or warrant, or take such other action as the Trustee may deem necessary.

For an Active Member, any proceeds shall be credited to the member's account(s) in the same manner as current contributions unless elected otherwise.

For all other members, any proceeds will be invested in the active investment option(s) to which their most recent contributions were directed, unless elected otherwise.

Article XI. VESTING

11.01 General

A member is fully and immediately vested in their member contributions (including Pre-Tax Contributions, After-Tax Contributions, and Roth Deferral Contributions). A member is fully and immediately vested in all of the Matching Contributions made to the Plan, including earnings on such contributions, with respect to periods on or after January 1, 2016.

A member shall acquire a fully vested, nonforfeitable right to the Matching Contributions made to the Plan, including earnings on such contributions, with respect to periods prior to January 1, 2016 upon the earliest of the following:

A. The member has performed an hour of service on or after January 1, 2002, and has completed three years of service;
B. The member has attained the Plan's normal retirement age (age 65);
C. The member has retired under the Marathon Petroleum Retirement Plan as then in effect;
D. The death of an Active Member or a Member with Account(s) in Suspense; or
E. The termination or partial termination of the Plan.
F. The member became Disabled (as defined in Section 13.04) as an Active Member or Member with Account in Suspense at any time on or after January 1, 2016.

11.02 Vesting Service

"Service," for the purposes of this Article XI, means the length of time in months during which: (1) a member either receives or is entitled to receive pay from a Participating Employer or a member of the Controlled Group; (2) a member is laid off (if such lay off is for less than 12 consecutive months) or on approved leave status with a member of the Controlled Group; (3) a member was a "leased employee" as defined in Code Section 414(n) for a Participating Employer or a member of the Controlled Group. A member shall be credited with a year of service if the member is compensated or entitled to pay by a Participating Employer or a member of the Controlled Group for 1,000 hours in a Service Year, as defined in Section 2.02C.

11.03 Equivalency Rules

For purposes of the 1,000-hour test, the Plan provides as follows, strictly for the purpose of processing work hours for Plan vesting, use of the equivalency rule:

The equivalency rule shall be: 45 hours for a weekly payroll, and 90 hours for a biweekly payroll. All work hours shall be associated with the month of the pay period begin date.

For a non-exempt employee, when payroll wages and hours are received and the employee is not on a leave, actual hours shall be used. If a non-exempt employee is on an accepted leave status covered under the terms of the Plan, their hours are determined by the equivalency rule.

For an exempt employee, if the employee receives any payroll wages, their hours are determined by the equivalency rule. If the employee is on an accepted leave status covered under the terms of the Plan, their hours are determined by the equivalency rule.

11.04 Service with Other Employers

If a former employee of a Participating Employer is hired (for reasons other than a transfer) by a non-Participating Employer of the Controlled Group, or a former employee of a member of the Controlled Group is hired (for reasons other than a transfer) by a Participating Employer, service with members of the Controlled Group shall be recognized for purposes of computing vesting service under the Plan provided that such vesting service is attributable to time while the employer(s) was a member of the Controlled Group.

If a former member or Retired Member is subsequently reemployed by the Company or a Participating Employer, all prior service which has been credited for vesting purposes hereunder shall be reinstated.

Members who were employed by an employer at the time such employer was acquired by a member of the Controlled Group may, with the approval of the Company or its delegate, be entitled to additional vesting service based on employment with the acquired employer. Appendix C outlines the additional vesting service that has been approved.

In the event of any transfer of assets and liabilities (including a consolidation or merger) from another plan to this Plan (other than a Rollover Contribution or individual Direct Plan Transfer Contributions), any person who becomes a Member after the transfer date and who was credited with vesting service credit under the transferor plan based on the Member's prior employment shall receive at least the same vesting service credit determined under that transferor plan as of the date of that transfer.

Article XII. CHANGE IN CONTROL PROVISIONS

12.01 Vesting on Change in Control

Employees who are terminated within 24 months of a Change in Control (defined below) will become immediately vested in the accounts under the Plan.

12.02 Definition of Change in Control

For purposes of the Plan the following shall apply:

A. For purposes of this Article XII, a "Change in Control" shall mean a change in control of Marathon Petroleum Corporation (the "Corporation") of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), whether or not the Corporation is then subject to such reporting requirement; provided, that, without limitation, such a change in control shall be deemed to have occurred if:

(i) any person (as such term is used in Sections 13(d) and 14(d) of the Exchange Act (a "Person") is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Corporation (not including in the securities beneficially owned by such person any such securities acquired directly from the Corporation or its affiliates) representing 20% or more of the combined voting power of the Corporation's then outstanding voting securities; provided, however, that for purposes of this Plan the term "Person" shall not include (a) the Corporation or any of its subsidiaries, (b) a trustee or other fiduciary holding securities under an employee benefit plan of the Corporation or any of its subsidiaries, (c) an underwriter temporarily holding securities pursuant to an offering of such securities, or (d) a corporation owned, directly or indirectly, by the stockholders of the Corporation in substantially the same proportions as their ownership of stock of the Corporation; and provided, further, however, that for purposes of this paragraph (i), there shall be excluded any Person who becomes such a beneficial owner in connection with an Excluded Transaction (as defined in paragraph (iii) below); or

(ii) the following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the date hereof, constitute the Board of Directors of Marathon Petroleum Corporation (the "Board") and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest including, but not limited to, a consent solicitation, relating to the election of directors of the Corporation) whose appointment or election by the Board or nomination for election by the Corporation's stockholders was approved or recommended by a vote of at least two-thirds of the directors then still in office who either were directors on the date hereof or whose appointment, election or nomination for election was previously so approved or recommended; or

(iii) there is consummated a merger or consolidation of the Corporation or any direct or indirect subsidiary thereof with any other corporation, other than a merger or consolidation (an "Excluded Transaction") which would result in the voting securities of the Corporation outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving corporation or any parent thereof) at least 50% of the combined voting power of the voting securities of the entity surviving the merger or consolidation (or the parent of such surviving entity) immediately after such merger or consolidation, or the shareholders of the Corporation approve a plan of complete liquidation of the Corporation or there is consummated the sale or other disposition of all or substantially all of the Corporation's assets.

The provisions of this Article XII shall apply only to employees classified by a Participating Employer as non-officer regular employees. A regular employee is an employee who is employed to work on a full-time or part-time basis and not on a time, special job completion, or call-when-needed basis, and who has been classified by a Participating Employer as a regular employee. Employees classified by a Participating Employer as "casual employees" are not subject to the provisions of this Article XII. A casual employee is an employee who is employed to work on a time, special job completion, call-when-needed basis, or is classified as a student worker, and who has been classified by a Participating Employer as a casual employee.

Article XIII. IN-SERVICE WITHDRAWALS

13.01 Distributions to Active Members

Active Members, provided they are not 5% owners of any employer within the Controlled Group, determined pursuant to Code Section 416(i), may elect to defer the commencement of benefits until no later than the April 1 immediately following the calendar year in which they retire. Eligible Active Members presently over age 70½ and receiving distributions under the Plan may elect to suspend such payments until they actually retire.

Active Members who are 5% owners of an employer within the Controlled Group, determined pursuant to Code Section 416(i), may elect to defer commencement of benefits until no later than the April 1 immediately following the calendar year in which such members attain age 70½.

The Plan will apply the minimum distribution requirements of Code Section 401(a)(9) as described in Appendix D.

13.02 In-Service Withdrawal of a Portion of Thrift Balance

Payments may be made from the Plan to an Active Member or a Member with Account(s) in Suspense as an "In-Service Withdrawal" under the terms of this Article XIII of the Plan.

Active Members or Members with Account(s) in Suspense are eligible to withdraw a portion of their After-Tax Account, Rollover Account, Roth Rollover Account, or vested Company Matching Account without losing such other rights as they may have in the balance of their accounts, subject to the provisions outlined below.

Active Members or Members with Account(s) in Suspense who have attained age 59½ are also eligible to withdraw a portion of their Pre-Tax Account, Roth Deferral Contribution Account, Roth In-Plan Conversion Account, Pre-Tax Catch-Up Contribution Account, Safe Harbor Matching Contribution Account, and Roth Catch-Up Account without losing such other rights as they may have in the balance of their accounts, subject to the provisions outlined below. In-Service Withdrawals are limited to a maximum of four (4) in a Plan Year. No In-Service Withdrawal of less than $100 will be permitted.

13.03 Account and Investment Withdrawal Order for Partial In-Service Withdrawals

Unless elected otherwise by the member, the order in which funds from the Plan are withdrawn is as follows, with the type of account taking precedence over the type of investment:

A. Account:

(i) Pre-1987 tax-paid employee contributions in the After-Tax Account
(ii) All remaining funds in the After-Tax Account
(iii) Rollover Account – After-Tax
(iv) Rollover Account – Pre-Tax
(v) Company Matching Account
(vi) Safe Harbor Matching Contribution Account (to the extent permitted by the Plan and by law)
(vii) Pre-Tax Account (to the extent permitted by the Plan and by law)
(viii) Pre-Tax Catch-Up Contribution Account (to the extent permitted by the Plan and by law)
(ix) Roth Deferral Contribution Account
(x) Roth Catch-Up Contribution Account
(xi) Roth In-Plan Conversion Account
(xii) Roth Rollover Contribution Account

B. Investments:

(i) Stable Value Fund
(ii) Mutual Funds

(iii) Marathon Petroleum Corporation Stock

The member may elect a different order from the one given above provided that all pre-1987 tax-paid employee contributions must be distributed before any funds from the Company Matching Account, Safe Harbor Matching Contribution Account, and the Rollover Contribution Account may be withdrawn.

13.04 In-Service Withdrawal of Entire Distributable Vested Thrift Balance

Subject to the conditions under this Section 13.04, an Active Member or a Member with Account(s) in Suspense may request an In-Service Withdrawal of their entire distributable vested Plan balance. The amount available for withdrawal depends on the member's age, disability status, vested status, and employment date as follows:

A. **Fully Vested Members**. A fully vested member who has not attained age 59½ will receive the value of their After-Tax Account, Rollover Account, Roth Rollover Account, and Company Matching Account. A fully vested member who has attained age 59½ or who is disabled (as defined below) will receive the value of their above mentioned accounts plus the value of their Pre-Tax Account, Pre-Tax Catch-Up Contribution Account, Safe Harbor Matching Contribution Account, Roth Deferral Contribution Account, and Roth Catch-Up Contribution Account, as well as the value of their Roth-In Plan Conversion Account.

B. **Non-fully Vested Members**. A non-fully vested member who has not attained age 59½ and who is not disabled will receive the value of their After-Tax Account, Rollover Account, and any vested portion of their Company Matching Account, excluding their Roth Rollover Account. A non-fully vested member who has attained age 59½ or who is disabled will also receive the value of their Pre-Tax Account, Pre-Tax Catch-Up Contribution Account, Safe Harbor Matching Contribution Account, Roth Rollover Account, Roth Deferral Contribution Account, Roth-In Plan Conversation Account, and Roth Catch-Up Account.

For purposes of this Plan, members will be considered "Disabled" if either:

1. they have been disabled for at least two years, and are wholly and continuously disabled to the extent that they are unable to engage in any occupation or perform any work for gainful compensation or profit for which they are, or may become, reasonably qualified by education, training, or experience, all as determined by the Marathon Petroleum Long Term Disability Plan, or
2. they provide proof of a Social Security determination of disability.

13.05 Distributions due to Military Service

A member shall be deemed as severed from employment for purposes of Code Section 401(k)(2)(B)(i)(I) during any period when the member is performing service in the uniformed service while on active duty for a period of more than 30 days, as described in Code Section 3401(h)(2)(A). However, a member who obtains a distribution by reason of service in the uniformed service for more than 30 days may not make any elective deferrals or employee contributions to the Plan during the six-month period beginning on the date of such distribution.

Notwithstanding anything to the contrary herein, a member who is a member of a reserve component (as defined in Section 101 of title 37), and who was ordered or called to active duty for a period in excess of 179 days or for an indefinite period may request, during the period beginning on the date of the order or call to duty and ending at the close of the active duty period, a distribution of all or part of his or her elective deferrals. The distribution shall be paid to the member as promptly as practicable after the Administrator (or its delegate) receives the member's request.

13.06 Hardship Withdrawals

An Active Member or a Member with Account in Suspense who has exhausted all other available withdrawal options under the terms of this Plan or any other plan sponsored by a member of the Controlled Group, may apply for a hardship withdrawal. Except to the extent otherwise provided for by the Plan Administrator, the member may apply for a hardship withdrawal through Fidelity's Participant Directed/E-Certified Hardship Withdrawal service, which service will meet applicable substantiation and certification requirements. At the Plan Administrator's discretion, the member may be requested to provide specific supporting documentation of their financial hardship.

For purposes of this Section 13.06, a withdrawal is made on account of hardship if made on account of an immediate and heavy financial need of the member where the member lacks other available resources, and the member has obtained all distributions, other than the hardship withdrawal, currently available under all plans maintained by the Company or any member of its Controlled Group. The Plan Administrator or its delegate shall direct the Plan's trustee with respect to hardship withdrawals and those withdrawals will be based on the following rules.

The following are the only financial needs considered immediate and heavy:

(i) Expenses for (or necessary to obtain) medical care that would be deductible under Code Section 213(d) (determined without regard to whether the expenses exceed 7.5% of adjusted gross income);

(ii) Costs directly related to the purchase of a principal residence for the member (excluding mortgage payments);

(iii) Payment of tuition, related educational fees, and room and board expenses, for up to the next 12 months of post-secondary education for the member, or their spouse, children or dependents (as defined in Code Section 152, without regard to Code Section 152(b)(1), (b)(2), and (d)(1)(B));

(iv) Payments necessary to prevent the eviction of the member from their principal residence or foreclosure on the mortgage on that residence;

(v) Payments for burial or funeral expenses for the member's deceased parent, spouse, children or dependents (as defined in Code Section 152, without regard to Code Section 152(b)(1), (b)(2), and (d)(1)(B)); or

(vi) Expenses for the repair of damage to the member's principal residence that would qualify for the casualty deduction under Code Section 165 (determined without regard to whether the loss exceeds 10% of adjusted gross income).

Subject to a maximum of four withdrawals per year, amounts available for withdrawal are from the member's elective deferrals, rollovers and after-tax contributions and earnings thereon, subject to a $500 minimum per withdrawal. A withdrawal may not exceed the amount determined to be a financial hardship for one of the reasons listed above and may include any amounts necessary to pay any federal, state, or local income taxes or penalties reasonably anticipated to result from the distribution.

Following a hardship withdrawal, the member may continue their contributions to the Plan and will continue to receive Company matching contributions as provided by the Plan.

Article XIV. WITHDRAWALS AFTER SEVERANCE FROM EMPLOYMENT

14.01 General

Any nonvested Matching Contributions held in the Company Matching Account are forfeited on the earlier of a complete distribution or five years after the date when a member is no longer an Active Member or a Member with Account(s) in Suspense. Vested members are entitled to receive their entire vested balance in all accounts when the member is no longer an Active Member or a Member with Account(s) in Suspense.

14.02 Deferral of Commencement of Benefits

The following members may elect to defer the commencement of benefits until no later than the April 1 immediately following the calendar year in which such members attain age 70½:

A. Retired Members with a vested Plan balance in excess of $5,000,

B. Members with Account(s) in Suspense;

C. Non-employee Members (other than Non-employee Members with a vested Plan balance of $5,000 or less, Beneficiary Members, and Spouse Beneficiary Members with a vested Plan balance in excess of $5,000).

Spouse Beneficiary Members with a Plan balance in excess of $5,000 may maintain an open Plan Account(s) for their lifetime, subject to the minimum distribution requirements of Code Section 401(a)(9). Spouse Beneficiary Members with a Plan balance of $5,000 or less must commence their final settlement no later than 60 days after the close of the Plan Year during which they become a Spouse Beneficiary Member. Beneficiary Members may maintain an open Account(s) until no later than the fifth anniversary of the date of the member's death.

All other Non-employee Members (including Beneficiary Members) with a vested Plan balance of $5,000 or less must commence their final settlement no later than 60 days from the date of becoming such members unless, in the case of an Alternate Payee Member, the distribution of any part of such Plan balance is then not permitted under Code Section 401(k).

However, the member or, if applicable, the beneficiary or beneficiaries may request earlier payment of benefits, in which case payment shall commence as soon as practicable after the member has filed a written notice of such election with the Plan Administrator.

Account balances attributable to rollover contributions (and earnings allocable thereto), are included in determining a member's eligibility to receive a $5,000 de minimis distribution. If the value of the member's nonforfeitable account balance as so determined is $5,000 or less, the Plan shall immediately distribute the member's entire nonforfeitable account balance, subject to the requirements of Code Section 401(a)(31)(B).

14.03 Withdrawal Rights After Severance From Employment

Withdrawal rights after severance from employment are as follows:

A. A Retired Member, Deferred Member, Spouse Beneficiary Member, or Beneficiary Member may withdraw during any year all or any portion of the remaining balance in their account(s), provided that no withdrawal of less than $500 may be made unless it constitutes the entire remaining balance. Such withdrawals, however, are limited to a maximum of four in a Plan Year.

B. A Member with Account(s) in Suspense may take In-Service Withdrawals as provided under Article XIII of this Plan.

C. Except as provided in Section 14.03A., a Non-employee Member may only make a withdrawal of his or her entire Plan balance; provided, however, that a Non-employee Member may also make a one-time withdrawal to pay off an outstanding Plan loan(s) without triggering the requirement to make a withdrawal of his or her entire Plan balance.

14.04 Reinstatements

Except as otherwise provided in this Plan, any nonvested amounts held in a member's Plan account that are forfeited by the member on account of the member's termination of employment prior to vesting shall be applied to reduce the Participating Employers' contributions (and not any Pre-Tax Contributions, After-Tax Contributions, Roth Deferral Contributions, including any "catch-up" amounts, or participant loan repayments, as applicable) for the Plan Year. Notwithstanding any other provision of the Plan to the contrary, forfeitures shall first be used to pay administrative expenses under the Plan, if so directed by the Plan Administrator. However, the amounts so forfeited shall be reinstated if the member is rehired by a Participating Employer, and, within five years after the date of rehire, repays the amount equal to the lesser of: (1) the Matching Contributions and earnings thereon credited to their Company Matching Account for the last 24 months in which they contributed to the Plan, or (2) the amount of the Plan distributions received upon termination of employment. The maximum an Active Member may repay is their After-Tax Contributions, and, if applicable, Pre-Tax Contributions and Roth Deferral Contributions, the total of which must not exceed the amount of their previous total distribution. Reinstated contributions by an eligible rehired employee are deposited into the After-Tax Account (if attributable to pre-1987 tax-paid employee contributions in the After-Tax Account, such contributions are credited to the pre-1987 subaccount). In any case, the rehired employee shall have reinstated toward vesting the total number of months for which contributions were matched prior to the member's complete distribution.

Notwithstanding the foregoing, a Deferred Member who is reemployed by a Participating Employer or any member of the Controlled Group will have nonvested forfeited amounts automatically reinstated into the Deferred Member's account as of the date of reemployment provided that such reemployment date occurs within five years of the date of such member's last termination of employment from an employer within the Controlled Group. All automatic reinstatements will be invested in accordance with the member's direction. A Deferred Member who is reemployed by a Participating Employer or any member of the Controlled Group will have reinstated toward vesting the total number of months recognized for vesting under Article XI immediately prior to such member's last termination of employment from an employer within the Controlled Group.

Rollover Contributions or Direct Plan Transfer Contributions may be recognized as contributions for purposes of satisfying the reinstatement provisions, provided such contributions are made within five years after the date of last termination from a member of the Controlled Group.

14.05 Re-Entry into Plan

A former member who is rehired is eligible to become a member of the Plan immediately so long as they meet the eligibility provisions of the Plan.

14.06 Severance From Employment Application

For purposes of the Plan (including the Speedway Component, notwithstanding anything to the contrary therein), "severance from employment" with respect to any individual, cessation from being an Employee of the Marathon Petroleum Company LP or any member of its Controlled Group. An Employee does not have a "severance from employment" if, in connection with a change of employment, the Employee's new employer maintains the Plan with respect to the individual. The determination of whether an Employee cease to be an employee of an employer maintaining a plan is based on all of the relevant facts and circumstances. This severance from employment application means, among other things, that the Plan does use the "same-desk rule."

Article XV. SETTLEMENT OPTIONS

15.01 General

Unless a member elects otherwise and except as provided below, distribution of his or her account(s) will be made in a single sum payment, in either cash or in securities.

A member's elective deferrals and earnings attributable to these contributions shall be distributed on account of the member's severance from employment, regardless of when the severance from employment occurred. However, such a distribution shall be subject to the other provisions of the Plan regarding distributions, other than provisions that require a severance from employment before such amounts may be distributed.

Notwithstanding any provision of the Plan to the contrary that would otherwise limit a distributee's election under this Article XV, a distributee may elect, at the time and in the manner prescribed by the Plan Administrator to have any portion of an eligible rollover distribution paid directly to an eligible retirement plan specified by the distributee in a direct rollover.

15.02 Definitions

Eligible rollover distribution: An eligible rollover distribution is any distribution of all or any portion of the balance to the credit of the distributee, except that an eligible rollover distribution does not include: any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the distributee or the joint lives (or joint life expectancies) of the distributee and the distributee's designated beneficiary, or for a specified period of ten years or more; any distribution to the extent such distribution is required under Code Section 401(a)(9); and the portion of any distribution that is not includible in gross income (determined without regard to the exclusion for net unrealized appreciation with respect to employer securities). A portion of a distribution shall not fail to be an eligible rollover distribution merely because the portion consists of after-tax employee contributions which are not includible in gross income. However, such portion may be transferred only (1) to an individual retirement account or annuity described in Code Section 408(a) or (b), or (2) to a qualified plan described in Code Sections 401(a) or 403(a) or (3) to a plan described in Code Section 403(b) that agrees to separately account for amounts so transferred, including separately accounting for the portion of such distribution which is includible in gross income and the portion of such distribution which is not so includible.

Eligible retirement plan: An eligible retirement plan is an individual retirement account described in Code Section 408(a), an individual retirement annuity described in Code Section 408(b), an annuity plan described in Code Section 403(a), or a qualified trust described in Code Section 401(a), that accepts the distributee's eligible rollover distribution.

An eligible retirement plan shall also mean an annuity contract described in Code Section 403(b) and an eligible plan under Code Section 457(b) which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this plan. An eligible retirement plan shall also mean a Roth individual retirement account under Code Section 408A(b). The applicable definition of eligible retirement plan shall also apply in the case of a distribution to a surviving spouse, or to a spouse or former spouse who is the alternate payee under a qualified domestic relation order, as defined in Code Section 414(p). In the case of a non-spouse beneficiary, a direct rollover may be made only to an individual retirement account or annuity described in Code Sections 408(a) or 408(b) that is established on behalf of the designated beneficiary and that will be treated as an inherited IRA pursuant to the provisions of Code Section 402(c)(11).

Distributee: A distributee includes an employee or former employee. In addition, the employee's or former employee's surviving spouse and the employee's or former employee's spouse or former spouse who is the alternate payee under a qualified domestic relations order, as defined in Code Section 414(p), are distributees with regard to the interest of the spouse or former spouse. A distributee also includes a non-spouse beneficiary who is a designated beneficiary under the Plan.

Direct rollover: A direct rollover is a payment by the Plan to the eligible retirement plan specified by the distributee.

15.03 Systematic Withdrawal Plan (Installments) Option

A Deferred Member, Retired Member, Beneficiary Member or Spouse Beneficiary Member may elect to have the distribution of their account made under a systematic withdrawal plan (installments) according to terms and conditions as may from time to time be approved for use and offered under the Plan, which terms and conditions may include: (a) the installment period, e.g., annual, semi-annual, monthly, or other installment period; (b) the amount of each installment by specified percentage or according to life expectancy; and (c) requirements as to the payments being made in cash and/or in-kind as to be paid in cash and/or securities. After distribution commences under an elected systematic withdrawal plan, the member may elect to discontinue receiving further installments at any time pursuant to terms and conditions for such an election as may from time to time be approved for use and offered under the Plan. Additionally, the member may be permitted to take an additional withdrawal while the systematic withdrawal option is in effect, pursuant to terms and conditions for such additional withdrawal as may from time to time be approved for use and offered under the Plan. If the member dies while a systematic withdrawal plan is in effect, the installments will cease and any further benefits with respect to the member's account will be payable pursuant to the provisions of Article XVI. Any systematic withdrawal plan is subject to the Plan's minimum required distribution provisions.

15.04 Small Cash-Outs

The Plan balance of members, other than Active Members and Members with Account(s) in Suspense, will be distributed to such members in the form of a lump sum in cash without their consent if their Plan balance is less than or equal to $5,000, determined immediately after the forfeiture of any nonvested Matching Contributions. Account balances attributable to rollover contributions (and earnings allocable thereto), are included in determining a participant's eligibility to receive the small cash-out under this Section 15.04.

In the event of a small cash-out under this Section 15.04 in which the Plan balance is greater than $1,000, if the member does not elect to have such distribution paid directly to an eligible retirement plan specified by the participant in a direct rollover or to receive the distribution directly in accordance with Code Section 401(a)(31)(B), then the Plan Administrator will pay the distribution in a direct rollover to an individual retirement account designated by the Plan Administrator.

Article XVI. BENEFICIARY

Each member shall designate a beneficiary or beneficiaries, subject to any requirements established by the Plan Administrator, and may change this designation at any time. Any change to a member's beneficiary designation revokes all prior beneficiary designations made by the member.

If a married member has a beneficiary designation which results in the member's spouse not being the member's sole beneficiary, such designation must be consented to by the spouse in writing on forms approved by the Plan Administrator and witnessed by a notary public.

A member's divorce shall automatically revoke their former spouse as a designated beneficiary on the effective date of such divorce.

The Plan shall only recognize beneficiary designations submitted to the Plan on forms approved by the Plan Administrator. Any beneficiary designation shall be effective only after it is received and accepted by the Plan Administrator, and the Plan's procedure for determining a beneficiary shall be controlling over any disposition by will or otherwise.

In the event a beneficiary designation is not completed for a member who transferred to this Plan from the Marathon Oil Company Thrift Plan on July 1, 2011, the default is to apply the Marathon Oil Company Thrift Plan designation in effect on July 1, 2011. For Delayed Transfer Employees (as defined in Appendix A), the beneficiary designation will default to the Marathon Oil Company Thrift Plan designation in effect on the date of transfer.

Subject to Section 15.04 of this Plan, a beneficiary, in the event of the member's death, may receive funds from the Plan in cash and/or securities commencing pursuant to the terms of Article XIV.

If settlement of the member's Account(s) pursuant to Article XV of the Plan has commenced before the member's death, the remaining balance of the member's benefit will be distributed to the designated beneficiary or beneficiaries at least as rapidly as required under Code Section 401(a)(9) and the regulations thereunder.

If a member dies on or after January 1, 2007 while performing qualified military service, that Member will be deemed to have resumed employment with the Participating Employer in accordance with the individual's reemployment rights under USERRA on the day preceding death and will be deemed to have terminated employment on the actual date of death. The term "qualified military service" means military service as used in Code Section 414(u)(1).

If a member dies without a valid beneficiary designation, the member's account(s) will be paid to the person or persons comprising the first surviving class of the classes listed in order below and such person or persons will receive the funds in a single sum. The eligible classes are set forth below:

- **A.** The member's surviving spouse;
- **B.** The member's surviving children (either natural born or adopted through a final adoption order issued by a court of competent jurisdiction prior to the member's death) but specifically excluding step-children;
- **C.** The member's surviving parents;
- **D.** The member's surviving brothers and sisters;
- **E.** The executor or administrator of the member's estate.

Article XVII. LOANS AND ASSIGNABILITY

Except as specifically provided herein, no right or interest of any member in the Plan or in their account(s) shall be assignable or transferable in whole or in part, either directly or by operation of law or otherwise, including, but not by way of limitation, execution, levy unless otherwise required by the Code or the regulations thereunder, garnishment, attachment, pledge, bankruptcy, or in any other manner, and no right or interest of any member in the Plan or in their account(s) shall be liable for, or subject to any obligation or liability of such member; and the Trustee shall not loan any funds or securities of this Plan.

Notwithstanding the foregoing, the Plan Administrator shall: (1) authorize the assignment and distribution of all or a portion of a member's account(s) in accordance with a Qualified Domestic Relations Order as defined in Code Section 414(p), (2) establish procedures for the review of domestic relations orders and Qualified Domestic Relations Orders, and (3) establish a loan policy whereby, upon proper application by a member, the Plan Administrator shall direct the Trustee to make loans to members, provided that such loans:

A. Are made available to all Plan members, other than Non-employee Members who are not parties in interest (to the extent permitted by ERISA or applicable Department of Labor regulations), on a uniform, nondiscriminatory basis,

B. Bear a reasonable rate of interest; and

C. Are adequately secured.

Each loan shall be evidenced by a member's promissory note for the amount of the loan including interest, payable to the order of the Trustee, and secured by collateral consisting of the assignment of the member's account(s) as provided in the loan rules.

All loans granted hereunder shall be subject to the application of the rules established by the Plan Administrator including, but not limited to, provisions relating to the application, repayment and renewal thereof. The Plan Administrator is specifically authorized to amend such rules from time to time. Further, to the extent that such rules conflict with any other portion of the Plan, such rules shall control.

Loan repayments will be suspended under this Plan as permitted under Code Section 414(u)(4).

Article XVIII. TRUSTEE

18.01 Appointment of Trustee

A Trustee (i.e., the qualified and acting trustee under the Plan's trust who shall be designated to operate and administer the Plan's trust fund (the "Trust Fund") and, except to the extent an Investment Manager has been appointed, to invest and manage all or a portion of the Plan's assets) shall be appointed by the Company to administer the investment of the Trust Fund. The Trustee shall serve at the pleasure of the Company and shall have such rights, powers and duties as are provided to a Trustee under ERISA for the investment of assets and for the administration of the trust fund.

The Trustee shall have the voting rights with respect to all shares held pursuant to this Plan, and may vote the shares itself or by proxy to the extent permitted by law. The Trustee, itself or by proxy, shall, however, vote shares of common stock of Marathon Petroleum Corporation in accordance with the directions, if any, of the members for whom the stock is held.

The Trustee may purchase common stock of Marathon Petroleum Corporation on the open market or directly from Marathon Petroleum Corporation, out of authorized and unissued shares or Treasury shares at the current market price thereof. The Trustee may sell the common stock of Marathon Petroleum Corporation on the open market or directly to Marathon Petroleum Corporation, at the current market price thereof.

Notwithstanding the preceding, the provisions of Section 8.02 regarding the participant-directed investment of Plan accounts and related matters and Plan provisions relating thereto shall apply.

18.02 Appointment of Investment Manager

An Investment Manager (or Investment Managers) may be appointed by the Investment Committee to manage (including the power to acquire and dispose of) any part or all of the assets of the Trust Fund. The Investment Manager shall serve at the pleasure of the Investment Committee, and shall have the rights, powers and duties provided to a named fiduciary as defined under ERISA for the investment of the assets assigned to it.

18.03 Responsibility of Trustee and Investment Manager

All contributions under this Plan shall be paid to and held by the Trustee. The Trustee shall, except with respect to the management of those assets specifically delegated to an Investment Manager, have responsibility for the investment and reinvestment of the Trust Fund in accordance with the directions of the Investment Committee or, if applicable, the directions of the Plan's members and beneficiaries in accordance with Section 8.02. The Investment Manager shall have exclusive management and control of the investment and/or reinvestment of the assets of the Trust Fund assigned to it in writing by the Investment Committee. All property and funds of the Trust Fund, including income from investments and from all other sources, shall be retained for the exclusive benefit of the Plan's members and beneficiaries, as provided in the Plan, and shall be used to pay benefits to such individuals, or to pay expenses of administration of the Plan and Trust Fund, except to the extent paid by the Company or the Participating Employers.

This Plan and the related Trust is intended to allocate to each fiduciary the individual responsibilities of the prudent execution of the functions assigned to each. None of the allocated responsibilities or any other responsibility shall be shared by the fiduciaries or the Trustee unless such sharing shall be provided for by a specific provision in this Plan or related Trust.

18.04 Bonding of Trustee and Investment Manager

Neither the Trustee nor the Investment Manager shall be required to furnish any bond or security for the performance of their powers and duties hereunder unless the applicable law makes the furnishing of such bond or security mandatory.

Article XIX. PLAN YEAR

For the purpose of this Plan, a Plan Year shall be defined as the period from January 1 of any calendar year through December 31 of the same year.

Article XX. CLAIMS PROCEDURES

Any claim under or with respect to the Plan shall be made in writing, identified as a claim, and filed with the Plan Administrator. The Plan Administrator may treat any writing or other communication received by the Plan Administrator as a claim under these claims procedures, even if the writing or communication is not identified as a claim. Written notice of the disposition of a claim shall be furnished to the claimant within 60 days after the claim is filed, except that such period may be extended for an additional 60 days if the Plan Administrator determines that special circumstances require such extension. In the event the claim is wholly or partially denied, the specific reasons for the denial shall be set forth in writing, and:

A. pertinent provisions of the Plan shall be cited;

B. a description of any additional material or information necessary for the claimant to perfect his or her claim, if possible, and an explanation of why that material or information is needed; and

C. an explanation as to how the claimant can request a review of the claim will be given, along with an explanation of the claimant's right to bring a civil action under ERISA Section 502(a) following an adverse benefit claim or other claim determination on review.

Upon denial of a claim in whole or in part, a claimant (or the claimant's authorized representative) shall have the right to submit a written request to the Plan Administrator, for a full and fair review of the denied claim, and shall have, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claimant's claim and may submit issues and comments in writing. The review shall take into account all comments, documents, records, and other information submitted by the claimant relating to the claim, without regard to whether such information was submitted or considered in the initial claim determination. A request for review of a claim must be submitted within 65 days of receipt by the claimant of written notice of the denial of the claim. If the claimant fails to file a request for review within 65 days of the denial notification, the claim will be deemed permanently waived and abandoned, and the claimant will be precluded from reasserting it. If the claimant does file a request for review, the claimant's request shall include a description of the issues and evidence the claimant deems relevant. Failure to raise issues or present evidence on review will preclude those issues or evidence from being presented in any subsequent proceeding or judicial review of the claim. A decision shall be rendered no more than 60 days after the Plan Administrator's receipt of the request for review, except that such period may be extended for an additional 60 days if the Plan Administrator determines that special circumstances (such as for a hearing) require such extension. If an extension of time is required, written notice of the expected decision date and the reasons for the extension shall be furnished to the claimant before the end of the initial 60-day period. In the event the appeal is wholly or partially denied, the Plan Administrator shall provide a prompt written decision setting forth:

A. the specific reason or reasons for the adverse determination;

B. a reference to specific Plan provisions on which the adverse determination was made;

C. a statement that claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claimant's claim; and

D. a statement describing any voluntary appeal procedures offered by the Plan and the claimant's right to obtain the information about such procedures and a statement of the claimant's right to bring an action under ERISA Section 502(a).

To the extent of its responsibility to review the denial of claims, the Plan Administrator shall have full authority to interpret and apply in its sole discretion the provisions of the Plan. The decision of the Plan Administrator on appeal shall be final and binding upon any and all claimants, including, but not limited to, members and beneficiaries, and any other individuals making a claim through or under them.

A claimant must follow these claims procedures before taking action in any other forum regarding a claim under the Plan. Any suit or legal action initiated by a claimant under the Plan must be brought by the claimant no later than one year following a final decision on the claim under these claims procedures. The one-year statute of limitations on suits or legal action shall apply in any forum where a claimant initiates such suit or legal action. If a suit or legal action is not filed within this period, the claimant's claim will be deemed permanently waived and abandoned, and the claimant will be precluded from reasserting it.

The Plan Administrator in its sole discretion may from time to time delegate such of its power and authority under the provisions of this Article XX to such person(s) as it deems appropriate for the orderly administration and determination of claims. Such delegation may include, without limitation, the Plan Administrator's power and authority to decide a claim or to review and decide an appealed claim. Upon any such delegation, the delegee(s) shall have, to the extent of the delegation, the full power, authority and discretion of the Plan Administrator with respect to the affected claim(s).

For purposes of these claims procedures and otherwise under the Plan, "claim" means any grievance, complaint or claim concerning any aspect of the operation or administration of the Plan or Trust, including but not limited to, claims for benefits, complaints or claims concerning the investments of Plan assets, and complaints or claims concerning any statutory violation of ERISA (including but not limited to any claim of a breach of fiduciary duty) with respect to the administration of or otherwise concerning the Plan's operation.

Article XXI. ADMINISTRATION OF THE PLAN; FIDUCIARY PROVISIONS

21.01 Plan Administrator

Jonathan M. Osborne shall serve as Plan Administrator. The Company shall appoint such assistant administrators as may be deemed necessary. The Plan Administrator shall be the named fiduciary under the Plan for all purposes other than for purposes of the control or management of the assets of the Plan.

21.02 Duties of Plan Administrator

The Plan Administrator shall be responsible for the administration and interpretation of the Plan. The Plan intends to meet the requirements of ERISA Section 404(c) and its regulations. Under these rules, the Plan fiduciaries may be relieved of liability for any losses that are the direct and necessary result of investment instructions given by a member or beneficiary. In determining the eligibility of members and other individuals for benefits and in construing the Plan's terms, the Plan Administrator has the power to exercise its discretion in the construction of doubtful, disputed, or ambiguous terms or provisions of the Plan, in cases where the Plan terms are silent, or in the application of Plan terms or provisions to situations not clearly or specifically addressed in the Plan itself. In situations in which the Plan Administrator deems it to be appropriate, the Plan Administrator may evidence (i) the exercise of such discretion, or (ii) any other type of decision, directive, or determination they may make with respect to the Plan, in the form of a written administrative ruling which, until revoked, or until superseded by plan amendment or by a different administrative ruling or a different administration of the ruling, shall thereafter be followed in the administration of the Plan. The Plan Administrator shall serve without bond or security for the performance of their duties hereunder unless applicable law makes the furnishing of such bond or security mandatory or unless required by the Company.

21.03 Delegation of Duties

The Plan Administrator may appoint subcommittees, individuals or any other agents as it deems advisable and may delegate to any of such appointees any or all of the powers and duties of the Plan Administrator. Upon such appointment and delegation, the Plan Administrator shall have no liability for the acts or omissions of any such delegate, as long as the Plan Administrator does not violate its fiduciary responsibility in making or continuing such delegation.

The Plan Administrator may, from time to time, delegate to any assistant plan administrator appointed pursuant to this Article XXI the authority to exercise any or all of the foregoing powers and such others as the Plan Administrator deems necessary and appropriate to carry out the provisions of the Plan.

21.04 Investment Committee

With respect to investment matters, an Investment Committee shall meet, from time to time, but in no event less frequently than annually, and shall be responsible (i) for reviewing and monitoring the performance of any investment managers that have been appointed and in developing appropriate guidelines and investment strategies for such investment managers, and (ii) for carrying out the Plan's investment policy, in selecting and reviewing appropriate investment options, and in addressing any related investment matters. The Investment Committee shall also review from time to time the Plan's record keeping, trust, and other administrative contracts and arrangements and related third-party service providers, and may act (where authorized), or otherwise recommend to the Plan Administrator or the Company, to amend, terminate, or change any such contracts, arrangements or third-party service providers. The Investment Committee shall consist of the Plan Administrator, and any other officers or employees of the Company or Marathon Petroleum Corporation or any affiliate thereof whom the Plan Administrator may appoint, from time to time, to serve on the Investment Committee. The Plan Administrator is also authorized to obtain the services of legal counsel, outside consultants, and other appropriate persons, as they deem necessary or appropriate, to assist the Investment Committee in performing its responsibilities. Any fees, charges, and/or costs associated with the retention of such services shall be paid by the Company. The members of the Investment Committee shall serve without bond or security for the performance of their duties hereunder unless applicable law makes the furnishing of such bond or security mandatory or unless required by the Company.

21.05 Records; Statements of Accounts

In the administration of the Plan, the Trustee or the Plan Administrator shall maintain individual ledger records on each member's account(s). Such records shall reflect a member's account(s) as between employer and employee contributions on a continuous basis.

The records of the Trustee, the Plan Administrator, and the Company shall be conclusive in respect to all matters involved in the administration of this Plan except as otherwise provided herein or by law.

Any application to make member contributions, any election, any withdrawal request, or any other direction under the Plan by a member must be accepted on behalf of the Plan Administrator before it shall be effective.

21.06 Participating Employer Administrative Matters

A. **Information to Plan Administrator**. The Company and each other Participating Employer shall supply current information to the Plan Administrator as to the name, date of birth, date of employment, annual compensation, leaves of absence, service data, and date of termination of employment of each Employee who is, or who will be eligible to become, a member under the Plan, together with any other information that the Plan Administrator considers necessary.

B. **No Liability**. The Company and each other Participating Employer assume no obligation or responsibility to any of its Employees, members or Beneficiaries for any act of, or failure to act, on the part of the Plan Administrator or the Trustee.

C. **Indemnity**. The Company and each other Participating Employer indemnifies and saves harmless the Plan Administrator, any member of the Board of Managers of the General Partner of the Company or other governing body of the Company and the members of any committee thereof, and any Plan committee (including, but not limited to the Investment Committee), any member of the Board of Directors of Marathon Petroleum Corporation, and each of them individually (e.g., as a member of a committee), from and against any and all loss (including reasonable attorneys' fees and costs of defense) resulting from liability to which the Plan Administrator, or the members of a committee, may be subjected by reason of any act or conduct in their official capacities in the administration of the Trust or this Plan or both, including all expenses reasonably incurred in their defense, in case the Company or other Participating Employer fails to provide such defense. The indemnification provisions of this Section 21.06.C. shall not relieve the Plan Administrator or member of a committee from any liability he or she may have under ERISA for breach of a fiduciary duty to the extent such indemnification is prohibited by ERISA. Furthermore, the committee members and the Company or other Participating Employer may execute a letter agreement further delineating the indemnification agreement of this Section 21.06.C., provided the letter agreement must be consistent with and shall not violate ERISA.

21.07 Costs, Expenses and Fees

All costs, expenses, and fees incurred in administering this Plan, to the extent not paid by the Company, shall be incurred by members. Expenses and fees for the general administration of members' accounts (e.g., recordkeeping fees charged by the Plan's trustee or recordkeeper for such administration) shall be paid by the members on a per capita basis; provided, that the Company may at its election from time to time pay for all or a portion of such expenses and fees. Fees or charges for investment management services (including, but not limited to, the optional service provided to members by "Fidelity Personalized Planning & Advice" or any similar service that succeeds same) shall not be paid by the Company but shall be borne by the members electing such services. Any taxes applicable to the member's account(s) shall be charged or credited to the member's account(s) by the Trustee.

21.08 Uniformity; Governing Law

Any discretionary acts taken under this Plan by the Plan Administrator, the Company, or the Trustee shall be uniform in their nature, shall be applicable to all members similarly situated, and shall be administered in a nondiscriminatory manner in accordance with the provisions of the Code and ERISA. It is intended that the standard of judicial review applied to any determination made by the Plan Administrator shall be the "arbitrary and capricious" standard of review.

The Plan shall be construed, whenever possible, to be in conformity with the requirements of the Code and ERISA. To the extent not in conflict with the preceding sentence and to the extent not preempted by ERISA, the construction of the Plan shall be governed by the laws of the State of Delaware. Decisions of the Plan Administrator made on all matters within the scope of their authority shall be final and binding upon all persons, including the Company; any trustee, all members and beneficiaries; their heirs and personal representatives, and all labor unions or other similar organizations representing members.

21.09 Restriction on Venue

Any legal action involving the Plan that is brought by any member (i.e., any Plan participant, beneficiary or alternate payee) or other person must be brought in the United States District Court for the Northern District of Ohio and no other federal or state court.

21.10 Powers of Attorney and Similar Matters

For all purposes relating to the administration of any Plan or legal requirement with respect to any participant, beneficiary, alternate payee or other individual having or claiming a Plan benefit or other interest under the Plan, including, but not limited to matters relating to distributions to minors and incompetent individuals, the Plan Administrator may in its discretion conclusively rely on an original or copy of any power of attorney, order of legal guardianship or conservatorship, or document of similar effect, granting a person the authority and right to act on behalf of any participant, beneficiary, alternate payee or other person having or claim a benefit or other interest under the Plan.

21.11 Fiduciary Provisions

A. **General Allocation of Duties.** Each fiduciary with respect to the Plan has only those specific powers, duties, responsibilities and obligations as are specifically given them under the Plan. The Company has the sole responsibility for authorizing contributions under the Plan and for terminating the participation in the Plan of any Participating Employer with respect to its employees. The Company has the sole authority to appoint and remove the Trustee and the Plan Administrator and to amend or terminate this Plan, in whole or in part. The Investment Committee has the sole authority to appoint and remove the Investment Managers. The Company and the Investment Committee, respectively, shall periodically review the Trustee's and Investment Managers' investments and performance in order to determine if such investments and performance are in conflict with the provisions of ERISA. However, the Company and the Investment Committee, respectively, shall not be liable for any acts or omissions of the Trustee or Investment Manager or be under any obligation to invest or otherwise manage any assets of the Trust Fund which are subject to the management of the Trustee or Investment Manager unless they know that said Trustee or Investment Manager has committed a breach of the obligations and duties set forth in ERISA. Except as otherwise specifically provided, the Plan Administrator has the sole responsibility for the administration of the Plan, which responsibility is specifically described herein. Except as otherwise specifically provided, the Trustee has the sole responsibility for the administration, investment and management of the assets held under the Plan. It is intended under the Plan that each fiduciary shall be responsible for the proper exercise of its own powers, duties, responsibilities and obligations hereunder and shall not be responsible for any act or failure to act of another fiduciary, except to the extent provided by law or as specifically provided herein.

B. Fiduciary Liability. A fiduciary shall not be liable in any way for any acts or omissions constituting a breach of fiduciary responsibility occurring prior to the date it becomes a fiduciary or after the date it ceases to be a fiduciary.

C. Co–Fiduciary Liability. A fiduciary shall not be liable for any breach of fiduciary responsibility by another fiduciary unless: (a) it participates knowingly in, or knowingly undertakes to conceal, an act or omission of such other fiduciary, knowing such act or omission is a breach; (b) by its failure to comply with ERISA Section 404(a)(1) in the administration of its specific responsibilities which give rise to its status as a fiduciary, it has enabled such other fiduciary to commit a breach; or (c) having knowledge of a breach by such other fiduciary, it fails to make reasonable efforts under the circumstances to remedy the breach

Article XXII. PARTICIPATION BY OTHER EMPLOYERS AND EMPLOYEES

Upon specific authorization by the Company or its delegate, and subject to such terms and conditions as the Company or its delegate may establish, the Company may permit other members of the Controlled Group to participate in this Plan as a Participating Employer. The terms “employer,” “employee” and words of similar import as used in this Plan shall be deemed to include the Company and such members of its Controlled Group, unless otherwise provided. Notwithstanding any other provision of the Plan to the contrary, an entity’s status as a Participating Employer shall automatically terminate upon that entity’s ceasing to be a member of the Company’s Controlled Group and such entity’s eligible employees’ eligibility for and active participation in the Plan shall likewise cease on account of that event.

Article XXIII. TOP-HEAVY PROVISIONS

If the Plan is or becomes “top-heavy” as such term is defined in Code Section 416(g) in any Plan Year, the provisions of Appendix B will supersede any conflicting provision of this Plan.

Article XXIV. AMENDMENT, MODIFICATION AND TERMINATION

24.01 General

The Company has the right to amend, modify or terminate the Plan at any time in its entirety or as to any Participating Employer.

The Company may exercise its reserved rights of amendment, modification or termination by the General Partner of the Company or its delegate.

24.02 Plan Termination

Upon termination of this Plan in its entirety or as to any Participating Employer, or upon the complete discontinuance of employer contributions hereto, each member affected shall have a fully vested, nonforfeitable right to receive their Plan balance hereunder, including all employer contributions made thereto at such time as permitted by law.

24.03 Retroactive Modification

The Company may modify this Plan in whole or in part, with effect retroactively, in order to preserve its qualification, either alone or in conjunction with other plans of the Company, under the Code or to comply with ERISA and applicable state or federal regulations. The Company may also modify this Plan in whole or in part with effect retroactively for any other reason, to the extent permitted by the Code, ERISA, and other applicable laws.

24.04 Merger

This Plan may not merge or consolidate with, or transfer its assets or liabilities to, any other plan unless each member in the Plan would (if the Plan then terminated) receive a benefit immediately after such merger, consolidation, or transfer which is equal to or greater than the benefit they would have been entitled to receive immediately before such merger, consolidation, or transfer (if the Plan had been terminated).

24.05 Change in Plan Sponsorship

In accordance with the exclusive benefit rule of Code Section 401(a), the sponsorship of this Plan may not be transferred from the Company to an unrelated taxpayer unless the transfer is in connection with a transfer of business assets, operations or employees from the Company to the unrelated taxpayer.

Article XXV. EFFECTIVE DATE OF THE PLAN

The original Marathon Oil Company Thrift Plan was initially put into effect November 1, 1953, and as a result of the spin-off of the downstream related business, this Plan was created as a spinoff of the original Marathon Oil Company Thrift Plan, effective as of July 1, 2011. Prior to this amendment and restatement, the Plan was most recently amended and restated effective as of August 1, 2020 and was thereafter amended from time to time. This amendment and restatement of the Plan is effective as of January 1, 2023.

Article XXVI. EXECUTION OF PLAN DOCUMENT

IN WITNESS WHEREOF, the Company has caused this amendment and restatement of the Marathon Petroleum Thrift Plan to be adopted and executed on its behalf effective as of January 1, 2023 by an authorized officer.

MARATHON PETROLEUM COMPANY, LP

	/s/ Fiona C. Laird
By:	Fiona C. Laird
Its:	Chief Human Resources Officer and Senior Vice President, Communications Marathon Petroleum Corporation
Date Signed:	February 22, 2023

APPENDIX A: SERVICE CREDIT FOR FORMER AFFILIATED COMPANIES

1. The Plan will recognize a new hire's previous Speedway LLC vesting service back to January 1, 1998, for purposes of eligibility and vesting.
2. For new hires with service with an employer of the Controlled Group, other than described above, vesting service will be recognized for eligibility and vesting as presently defined in the Plan. Service with an employer in the MOC controlled group, through July 1, 2011 will count for vesting and eligibility under the Plan for hires to the Company from the MOC controlled group on July 1, 2011. Except with respect to Delayed Transfer Employees, as defined in the Employee Matters Agreement, service with an employer in the MOC controlled group after July 1, 2011 will not count for vesting and eligibility under the Plan. Service of Delayed Transfer Employees, as defined in the Employee Matters Agreement, with the MOC controlled group through their date of transfer will count for vesting and eligibility under the Plan.
3. For any new hires (non-transferees) to any Participating Employer with previous employment with USX Corporation ("USX") and its wholly-owned subsidiaries, their service between March 11, 1982 and the December 31, 2001 effective date of the United States Steel Corporation ("U.S. Steel") spin-off from USX will count for vesting and eligibility purposes. For these non-transferees, service with U.S. Steel on or after the December 31, 2001 effective date of the spin-off will not count for vesting and eligibility purposes under the Plan.

APPENDIX B: TOP-HEAVY PROVISIONS

Section 1. Application of Top-Heavy Provisions

This Appendix B sets forth the provisions of Code Section 416 and should be interpreted to apply only in accordance with Code Section 416. The provisions in this Appendix B shall take precedence over any other provisions in the Plan with which they conflict.

Section 2. Definitions

For purposes of this Appendix B, the following words and terms shall have the meanings indicated:

A. "Key Employee" means any employee or former employee (including any deceased employee) who at any time during the Plan Year that includes the Determination Date was an officer of the Employer having annual Gross Pay greater than $215,000 (as adjusted under Code Section 416(i)(1)), a 5-percent owner of the Employer, or a 1-percent owner of the Employer having annual Gross Pay of more than $150,000. The determination of who is a Key Employee will be made in accordance with Code Section 416(i)(1) and the applicable Treasury Regulations and other guidance of general applicability issued thereunder.

B. "Top-Heavy Plan" means a plan where any of the following conditions exist:

1. The Top-Heavy Ratio for the plan exceeds 60% and the plan is not part of any Required Aggregation Group or Permissive Aggregation Group;
2. The plan is a part of a Required Aggregation Group of plans but not part of a Permissive Aggregation Group and the Top-Heavy Ratio for the group of plans exceeds 60%;
3. The plan is part of a Required Aggregation Group and part of a Permissive Aggregation Group and the Top-Heavy Ratio for the Permissive Aggregation Group exceeds 60%.

C. "Top-Heavy Ratio" means

1. If the Employer maintains one or more defined contributions plans (including any simplified employee pension plan) and the Employer has not maintained any defined benefit plan which during the five-year period ending on the Determination Date has or has had accrued benefits, the Top-Heavy Ratio for this Plan alone or for the Required or Permissive Aggregation Group as appropriate is a fraction, the numerator of which is the sum of the value of all defined contribution plan account balances maintained on behalf of a Key Employee as of the Determination Date (including any part of the account balance distributed in the one-year period ending on the Determination Date) (five-year period ending on the Determination Date in the case of a distribution made for a reason other than severance from employment, death, or disability), and the denominator of which is the sum of all defined contribution plan account balances (including any part of any account balance distributed in the one-year period ending on the Determination Date) (five-year period ending on the Determination Date in the case of a distribution made for a reason other than severance from employment, death, or disability), both computed in accordance with Code Section 416 and the Treasury Regulations thereunder. Both the numerator and denominator of the Top-Heavy Ratio are increased to reflect any contribution not actually made as of the Determination Date, but which is required to be taken into account

on that date under Code Section 416 and the Treasury Regulations thereunder.

2. If the Employer maintains one or more defined contribution plans (including any simplified employee pension plan), and the Employer maintains or has maintained one or more defined benefit plans which during the five-year period ending on the Determination Date has or has had any accrued benefits, the Top-Heavy Ratio for any Required or Permissive Aggregation Group as appropriate is a fraction, the numerator of which is the sum of all defined contribution plan account balances under the aggregated defined contribution plan or plans for all Key Employees, determined in accordance with the paragraph above, and the present value of accrued benefits under the aggregated defined benefit plan or plans for all Key Employees as of the Determination Date, and the denominator of which is the sum of all defined contribution account balances under the aggregated defined contribution plan or plans for all participants, determined in accordance with the above paragraph, and the present value of accrued benefits under a defined benefit plan or plans for all members as of the Determination Date, all determined in accordance with Code Section 416 and the Treasury Regulations thereunder. The accrued benefits under a defined benefit plan in both the numerator and denominator of the Top-Heavy Ratio are increased for any distribution of an accrued benefit made in the one-year period ending on the Determination Date (five-year period ending on the Determination Date in the case of a distribution made for a reason other than severance from employment, death, or disability).

3. For purposes of the above paragraphs, the value of a member's account balance and the present value of accrued benefits will be determined as of the most recent valuation date that falls within or ends with the 12-month period ending on the Determination Date, except as provided in Code Section 416 and the Treasury Regulations thereunder for the first and second plan years of a defined benefit plan. The account balances and accrued benefits of a participant (i) who is not a key employee but who was a key employee in a prior year, or (ii) who has not been credited with at least one hour of service with any employer maintaining the plan at any time during the one-year period ending on the Determination Date will be disregarded. The calculation of the Top-Heavy Ratio and the extent to which distributions, rollovers, and transfers are taken into account will be made in accordance with Code Section 416 and the Treasury Regulations thereunder. Deductible employee contributions will not be taken into account for purposes of computing the Top-Heavy Ratio. When aggregating plans, the value of account balances and accrued benefits will be calculated with reference to the Determination Dates that fall within the same calendar year.

   The accrued benefit of a member other than a Key Employee shall be determined under (i) a method, if any, that uniformly applies for accrual purposes under all defined benefit plans maintained by the Employer, or (ii) if there is no such method, as if such benefit accrued not more rapidly than the slowest accrual rate permitted under the fractional rule of Code Section 411(b)(1)(C).

D. "Permissive Aggregation Group" means a Required Aggregation Group plus any other plan or plans of the Employer which, when considered as a group with the Required Aggregation Group, would continue to satisfy the requirements of Code Sections 401(a)(4) and 410.

E. “Required Aggregation Group” means a group consisting of (1) each qualified plan of the Employer in which at least one Key Employee participated at any time during the Plan Year containing the Determination Date or any of the four preceding Plan Years (regardless of whether the plan has terminated), and (2) any other qualified plan of the Employer which enables a plan described in (1) to meet the requirements of Code Sections 401(a)(4) or 410.

F. “Determination Date” means the last day of the Plan Year immediately preceding the Plan Year for which top-heaviness is to be determined or, in the case of the first Plan Year of a new plan; the last day of such Plan Year.

Section 3. Accelerated Vesting

In the event the Plan is a Top-Heavy Plan, the vesting schedule of Section 11.01 shall continue to apply.

Section 4. Minimum Contribution

For any Plan Year in which this Plan is determined to be a Top-Heavy Plan, a minimum contribution shall be made to the account of each non-Key Employee who participates in the Plan. For the purpose of this Section, the minimum employer contribution shall be equal to the lesser of (a) 3% of such non-Key Employee’s Gross Pay, or (b) the largest percentage of such Gross Pay provided for a Key Employee during the Plan Year. For purposes of this Section, elective deferrals of Key Employees shall be treated as Employer contributions, and Gross Pay will be defined in the same way as to apply the limit in Section 7.01(b). In determining the amount of Employer contributions which are needed to satisfy the requirements of this Section, employee deferrals for non-Key Employees shall not be taken into account. Notwithstanding the prior provisions of this Section, a minimum contribution shall not be made to any employee to the extent the employee is covered under any other plan of the Employer and the Employer has provided that the minimum allocation or benefit requirement applicable to Top-Heavy Plans shall be met in the other plan or plans.

Section 5. Coordination with Other Plans

If a non-Key Employee participates in this Plan and a defined benefit plan which is part of the Required or Permissive Aggregation Group that is determined to be a Top-Heavy Plan, the defined benefit and defined contribution minimums of Code Section 416(c) will be satisfied by providing each such employee with the defined benefit minimum established in Section 5.4 of the Marathon Petroleum Retirement Plan or the successor to such provision.

APPENDIX C: SERVICE WITH ACQUIRED COMPANIES

Except as otherwise noted, for individuals who became members of the Plan as a direct result of the Company's or a Participating Employer's acquisition of any of the following companies (or portions thereof), the service of such individuals which was recognized by such companies (or portions thereof) for purposes of vesting under a defined benefit or defined contribution plan, is recognized as vesting service for purposes of the Plan:

Acquired Companies Prior to July 1, 2011

- Amoco Corporation
- Aurora Gasoline Company - Option 1*
  - Option 2
- Buckeye Pipe Line Company
- Center Terminal Company – Hartford
- Center Terminal Company – Indianapolis
- Chevron Corporation
- CMS Energy Corporation
- Conoco, Inc.
- Cotton Valley Operators Committee
- Ecol, Ltd.
- ExxonMobil Terminal (Charleston, WV)
- ExxonMobil Terminal (Selma, NC)
- Globe Oil and Refining Company
- Haynesville Operators Committee**
- Husky Oil Company
- Joint Venture Company – Ashland Inc. (limited to individuals transferred from Ashland Inc. to Marathon Ashland Petroleum LLC (MAP) or any one of MAP's Participating Employers between January 1, 1998 and June 30, 2005.)
- Occidental Petroleum Company with CLAM
- Pan Ocean Oil Corporation
- Pennaco Energy, Inc.
- Platte Pipe Line Company
- Plymouth Oil Company
- PPG Industries, Inc.
- R. I. Marketing, Inc. (certain employees transferred to a Participating Employer)
- Republic Barge Transportation Company
- Rock Island Refining Corporation
- Ross Oil Corporation
- Signal Oil Company
- Texaco, Inc.
- Unocal
- Ultramar Diamond Shamrock
- Wake Up Oil Company

Acquired Companies on or After July 1, 2011

- Amec Foster Wheeler Martinez, Inc*** (assets acquired December 10., 2021)
- Andeavor**** (acquired October 1, 2018)
- BOE North Dakota*** (acquired May 31, 2022)
- BOE South*** (acquired August 1, 2019)
- BP Products North America, Inc.
- Enbridge Pipelines (Ozark) L.L.C.*** (acquired August 21, 2017)
- Felda Iffco, LLC***
- Flint Hills Resources *** (acquired July 1, 2019)
- Hess Corporation and Hess Retail Operations LLC***
- MarkWest Hydrocarbon, Inc.
- NOCO*** (acquired July 15, 2019)
- Shell Pipeline Company LP***
- Pin Oak Terminals, LLC and its affiliates*** (acquired September 26, 2018)
- WilcoHess LLC

* 75% of the vesting service recognized by Aurora Gasoline Company is recognized by the Plan for the time period prior to January 1, 1975. 100% of such service is recognized thereafter.

** 50% of the vesting service recognized by Haynesville Operators Committee is recognized by the Plan.

*** Service, if fractional, will be rounded up to the next whole number.

****For Vesting Service purposes, an Andeavor-Acquired Employee whose approved transfer date to a Participating Employer occurred on or before December 31, 2018, their actual Andeavor accredited service as of 11:59 PM on December 31, 2018, will be recognized as Vesting Service with fractional years rounded up to the next whole year. For any new hire (non-transferee) or re-hire to a Participating Employer after October 1, 2018, who satisfies the eligibility requirements of Article 2 and who has previous vesting service as determined under the Andeavor 401(k) Plan, such individual's Andeavor 401(k) Plan vesting service as of September 30, 2018, will be recognized under the Marathon Petroleum Thrift Plan for Vesting Service Purposes.

APPENDIX D: MINIMUM DISTRIBUTION REQUIREMENTS

Section 1. General Rules

1.1 Effective Date. The provisions of this Appendix will apply for purposes of determining required minimum distributions for calendar years beginning with the 2003 calendar year.

1.2 Precedence. The requirements of this Appendix will take precedence over any inconsistent provisions of the plan.

1.3 Requirements of Treasury Regulations Incorporated. All distributions required under this Appendix will be determined and made in accordance with the Treasury Regulations under Code Section 401(a)(9).

1.4 TEFRA Section 242(b)(2) Elections. Notwithstanding the other provisions of this Appendix, distributions may be made under a designation made before January 1, 1984, in accordance with Section 242(b)(2) of the Tax Equity and Fiscal Responsibility Act (TEFRA) and the provisions of the Plan that relate to Section 242(b)(2) of TEFRA.

Section 2. Time and Manner of Distribution

2.1 Required Beginning Date. The participant's entire interest will be distributed, or begin to be distributed, to the participant no later than the participant's required beginning date.

2.2 Death of Participant Before Distributions Begin. If the participant dies before distributions begin, the participant's entire interest will be distributed, or begin to be distributed, no later than as follows:

a) If the participant's surviving spouse is the participant's sole designated beneficiary, then distributions to the surviving spouse will begin by December 31 of the calendar year immediately following the calendar year in which the participant died, or by December 31 of the calendar year in which the participant would have attained age 70½, if later.

b) If the participant's surviving spouse is not the participant's sole designated beneficiary, then distributions to the designated beneficiary will begin by December 31 of the calendar year immediately following the calendar year in which the participant died.

c) If there is no designated beneficiary as of September 30 of the year following the year of the participant's death, the participant's entire interest will be distributed by the second anniversary of the participant's death.

d) If the participant's surviving spouse is the participant's sole designated beneficiary and the surviving spouse dies after the participant but before distributions to the surviving spouse begin, this Section 2.2, other than Section 2.2(a), will apply as if the surviving spouse were the participant.

For purposes of this Section 2.2 and Section 4, unless Section 2.2(d) applies, distributions are considered to begin on the participant's required beginning date. If Section 2.2(d) applies, distributions are considered to begin on the date distributions are required to begin to the surviving spouse under Section 2.2(a). If distributions under an annuity purchased from an insurance company irrevocably commence to the participant before the participant's required beginning date (or to the participant's surviving spouse before the date distributions are required to begin to the surviving spouse under Section 2.2(a)), the date distributions are considered to begin is the date distributions actually commence.

2.3 Forms of Distribution. Unless the participant's interest is distributed in the form of an annuity purchased from an insurance company or in a single sum on or before the required beginning date, as of the first distribution calendar year distributions will be made in accordance with Sections 3 and 4 of this Appendix. If the participant's interest is distributed in the form of an annuity purchased from an insurance company, distributions thereunder will be made in accordance with the requirements of Code Section 401(a)(9) and Treasury Regulations.

Section 3. Required Minimum Distributions During Participant's Lifetime

3.1 Amount of Required Minimum Distribution for Each Distribution Calendar Year. During the participant's lifetime, the minimum amount that will be distributed for each distribution calendar year is the lesser of:

a) the quotient obtained by dividing the participant's account balance by the distribution period in the Uniform Lifetime Table set forth in Section 1.401(a)(9)-9 of the Treasury Regulations, using the participant's age as of the participant's birthday in the distribution calendar year; or

b) if the participant's sole designated beneficiary for the distribution calendar year is the participant's spouse, the quotient obtained by dividing the participant's account balance by the number in the Joint and Last Survivor Table set forth in Treasury Regulations Section 1.401(a)(9)-9, using the participant's and spouse's attained ages as of the participant's and spouse's birthdays in the distribution calendar year.

3.2 Lifetime Required Minimum Distributions Continue Through Year of Participant's Death. Required minimum distributions will be determined under this Section 3 beginning with the first distribution calendar year and up to and including the distribution calendar year that includes the participant's date of death.

Section 4. Required Minimum Distributions After Participant's Death

4.1 Death on or After Date Distributions Begin

a) Participant Survived by Designated Beneficiary. If the participant dies on or after the date distributions begin and there is a designated beneficiary, the minimum amount that will be distributed for each distribution calendar year after the year of the participant's death is the quotient obtained by dividing the participant's account balance by the longer of the remaining life expectancy of the participant or the remaining life expectancy of the participant's designated beneficiary, determined as follows:

   1. The participant's remaining life expectancy is calculated using the age of the participant in the year of death, reduced by one for each subsequent year.

   2. If the participant's surviving spouse is the participant's sole designated beneficiary, the remaining life expectancy of the surviving spouse is calculated for each distribution calendar year after the year of the participant's death using the surviving spouse's age as of the spouse's birthday in that year. For distribution calendar years after the year of the surviving spouse's death, the remaining life expectancy of the surviving spouse is calculated using the age of the surviving spouse as of the spouse's birthday in the calendar year of the spouse's death, reduced by one for each subsequent calendar year.

   3. If the participant's surviving spouse is not the participant's sole designated beneficiary, the designated beneficiary's remaining life expectancy is calculated using

the age of the beneficiary in the year following the year of the participant's death, reduced by one for each subsequent year.

b) No Designated Beneficiary. If the participant dies on or after the date distributions begin and there is no designated beneficiary as of September 30 of the year after the year of the participant's death, the minimum amount that will be distributed for each distribution calendar year after the year of the participant's death is the quotient obtained by dividing the participant's account balance by the participant's remaining life expectancy calculated using the age of the participant in the year of death, reduced by one for each subsequent year.

4.2 Death Before Date Distributions Begin.

a) Participant Survived by Designated Beneficiary. Except as provided in the Plan, if the participant dies before the date distributions begin and there is a designated beneficiary, the minimum amount that will be distributed for each distribution calendar year after the year of the participant's death is the quotient obtained by dividing the participant's account balance by the remaining life expectancy of the participant's designated beneficiary, determined as provided in Section 4.1.

b) No Designated Beneficiary. If the participant dies before the date distributions begin and there is no designated beneficiary as of September 30 of the year following the year of the participant's death, distribution of the participant's entire interest will be completed by the second anniversary of the participant's death.

c) Death of Surviving spouse Before Distributions to Surviving Spouse Are Required to Begin. If the participant dies before the date distributions begin, the participant's surviving spouse is the participant's sole designated beneficiary, and the surviving spouse dies before distributions are required to begin to the surviving spouse under Section 2.2(a), this Section 4.2 will apply as if the surviving spouse were the participant.

Section 5. Definitions

5.1 Designated beneficiary. The individual who is designated as the beneficiary under Article XVI of the Plan and is the designated beneficiary under Section 401(a)(9) of the Internal Revenue Code and Treasury Regulations Section 1.401(a)(9)-4, Q&A-1.

5.2 Distribution calendar year. A calendar year for which minimum distribution is required. For distributions beginning before the participant's death, the first distribution calendar year is the calendar year immediately preceding the calendar year which contains the participant's required beginning date. For distributions beginning after the participant's death, the first distribution calendar year is the calendar year in which distributions are required to begin under Section 2.2. The required minimum distribution for the participant's first distribution calendar year will be made on or before the participant's required beginning date. The required minimum distribution for other distribution calendar years, including the required minimum distribution for the distribution calendar year in which the participant's required beginning date occurs, will be made on or before December 31 of that distribution calendar year.

5.3 Life expectancy. Life expectancy as computed by use of the Single Life Table in Treasury Regulations Section 1.401(a)(9)-9.

5.4 Participant's account balance. The account balance as of the last valuation date in the calendar year immediately preceding the distribution calendar year (valuation calendar year) increased by the amount of any contributions made and allocated or forfeitures allocated to the account balance as of dates in the valuation calendar year after the valuation date and decreased by distributions made in the valuation calendar year after the valuation date. The account balance for the valuation calendar year includes any amounts rolled over or transferred to the plan either in the valuation calendar year or in the distribution calendar year if distributed or transferred in the valuation calendar year.

5.5 Required beginning date. April 1 of the calendar year following the later of (i) the calendar year in which the participant attains age 70½ or (ii) the calendar year in which the participant retires; provided, however, that if the participant is a 5% owner of the business, the required beginning date is April 1 of the calendar year following the calendar year in which the participant attains age 70½.

Section 6. Exceptions to Distribution Requirements Described Elsewhere in Appendix D

6.1 Election to Apply 5-Year Rule to Distributions to Designated Non-Spouse Beneficiaries. If the participant dies before distributions begin and there is a designated non-spouse beneficiary, distribution to the designated non-spouse beneficiary is not required to begin by the date specified in Section 2.2 of this Appendix D, but the participant's entire interest will be distributed to the designated non-spouse beneficiary by the fifth anniversary of the participant's death. If the participant's surviving spouse is the participant's sole designated beneficiary and the surviving spouse dies after the participant but before distributions to either the participant or the surviving spouse begin, this election will apply as if the surviving spouse were the participant.

6.2 Participant Election to Receive Required Minimum Distribution for 2009. Participants, alternate payees and beneficiaries who would otherwise receive a required minimum distribution under this Appendix have the right to elect to receive for 2009: (a) no distribution, (b) the amount which would, but for this paragraph, have been the required minimum distribution under the Plan for 2009 or (c) any other amount otherwise available under the Plan. If the participant, alternate payee or beneficiary fails to make an election, then the Plan will make no distribution for 2009 to the participant, alternate payee or beneficiary.

APPENDIX E: RULES GOVERNING ROTH DEFERRAL CONTRIBUTIONS

Section 1. General Application

1.1 This Appendix will apply to Roth Deferral Contributions.

1.2 The Plan will accept Roth Deferral Contributions made on behalf of members. A member's Roth Deferral Contributions will be allocated into a separate account maintained for such deferrals as described in Section 2 (referred to in the Plan as the "Roth Deferral Contribution Account").

1.3 Unless specifically stated otherwise, Roth Deferral Contributions will be treated as elective deferrals for all purposes under the Plan.

Section 2. Separate Accounting

2.1 Contributions and withdrawals for Roth Deferral Contributions will be credited and debited to the Roth Deferral Contribution Account maintained for each member.\

2.2 The Plan will maintain a record of the amount of Roth Deferral Contributions in each member's account.

2.3 No contributions other than Roth Deferral Contributions and properly attributable earnings will be credited to each member's Roth Deferral Contribution Account.

Section 3. Direct Rollovers

3.1 Notwithstanding any provision of the Plan to the contrary, a direct rollover of a distribution from a Roth Deferral Contribution Account under the Plan will only be made to another Roth elective deferral account under an applicable retirement plan described in Code Section 402A(e)(1) or to a Roth IRA described in Code Section 408A, and only to the extent the rollover is permitted under the rules of Code Section 402(c).

3.2 Notwithstanding any provision of the Plan to the contrary, the Plan will accept a rollover contribution to a Roth Rollover Account only if it is a direct rollover from another Roth elective deferral account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(c).

3.3 The Plan will not provide for a direct rollover (including an automatic rollover) for distributions from a member's Roth Deferral Contribution Account if the amount of the distributions that are eligible rollover distributions are reasonably expected to total less than $200 during a year. Eligible rollover distributions from a member's Roth Deferral Contribution Account are taken into account in determining whether the total amount of the member's account balances under the Plan exceeds $1,000 for purposes of mandatory distributions from the Plan.

Section 4. Definition

4.1 Roth Deferral Contributions. A Roth Deferral Contribution is an elective deferral that is:

(a) Designated irrevocably by the member at the time of the cash or deferred election as a Roth Deferral Contribution that is being made in lieu of all or a portion of the Pre-Tax Contributions the member is otherwise eligible to make under the Plan; and

(b) Treated by the employer as includible in the member's income at the time the member would have received that amount in cash if the member had not made a cash or deferred election.

APPENDIX F: PROVISIONS SPECIFIC TO MARKWEST EMPLOYEES

The following provisions are specific to anyone who (i) maintained an account balance under the MarkWest Plan (as defined prior to Article I), and (ii) had an amount (vested or nonvested) transferred to the Plan on the Plan Merger Date ("MarkWest Employee").

Effective as of the Plan Merger Date, and notwithstanding anything else to the contrary in the Plan, the following provisions shall apply to MarkWest Employees:

1. For purposes of determining the vesting service (within the meaning of Section 11.02) of MarkWest Employees (as defined in this Appendix F) under the Plan, each MarkWest Employee shall be credited with the same vesting service (and vested interest) such MarkWest Employee was credited with under the MarkWest Plan (as defined prior to Article I) immediately prior to the Plan Merger Date. Notwithstanding the foregoing, effective as of January 1, 2016, any fractional vesting service as of December 31, 2015 of individuals who were employed by MarkWest Hydrocarbon, Inc. on December 4, 2015 (as of the time of the merger by and among MarkWest Energy Partners, L.P., MPLX LP, MPLX GP LLC, Marathon Petroleum Corporation, and Sapphire Holdco LLC), as recognized by the MarkWest Plan, shall be rounded up to the next whole year under this Plan.
2. A MarkWest Employee's nonvested amounts held under the Plan as of the Plan Merger Date, if any, shall continue to be subject to the following vesting schedule. The following vesting schedule is the same vesting schedule that was used under the MarkWest Plan immediately prior to the Plan Merger Date. For purposes of clarification, any amounts that were previously vested under the MarkWest Plan, including amounts that were vested as a result of the merger by and among MarkWest Energy Partners, L.P., MPLX LP, MPLX GP LLC, Marathon Petroleum Corporation, and Sapphire Holdco LLC, shall continue to be 100% vested and shall not be subject to the following vesting schedule. Additionally, any Matching Contributions, including earnings on such contributions, made on behalf of MarkWest Employees on or after January 1, 2016 under the Plan shall be immediately vested as provided in Section 11.01 of the Plan.

Years of Service	Vested Interest
0	0
1	25%
2	50%
3	75%
4	100%

3. A MarkWest Employee's nonvested amounts held under the Plan as of the Plan Merger Date, if any, shall be subject to the forfeiture and reinstatement rules under this Plan, which are the same as, or more favorable to members than that of, the MarkWest Plan.
4. If a MarkWest Employee performs an Hour of Service with the Controlled Group on or after January 1, 2016, such MarkWest Employee shall become 100% vested in all nonvested amounts contributed under the MarkWest Plan, but only to the extent such amounts have not previously been forfeited without the possibility of reinstatement.

APPENDIX G: PROVISIONS SPECIFIC TO ANDEAVOR EMPLOYEES

The following provisions apply to any individual who (i) maintained an account balance under the Andeavor 401(k) Plan, and (ii) had an amount (vested or nonvested) transferred from such account to the Plan pursuant to the April 30, 2019, merger of the Andeavor 401(k) Plan into the Plan (such date is the "2019 Plan Merger Date", and each such individual is an "Andeavor Employee").

Notwithstanding any other provision in the Plan to the contrary:

1. An Andeavor Employee's nonvested amounts attributable to the Andeavor 401(k) Plan held under the Plan as of the 2019 Plan Merger Date, if any, shall continue to be subject to the following vesting schedules, which are the same vesting schedules that applied under the Andeavor 401(k) Plan immediately prior to the 2019 Plan Merger Date.

   Company Matching Contributions, Discretionary True-Up Matching Contributions, and Profit Sharing Contributions, if any, held in the Andeavor Employee's applicable account shall vest according to the following schedule:

Completed Years of Service	Percentage Vested
Less than 1 year	0%
1 year or more	100%

   Notwithstanding the foregoing schedule, an Andeavor Employee whose employment is involuntarily terminated as a result of a layoff shall be I00% vested in his account. The determination of whether an Andeavor Employee's employment has been "involuntarily terminated as a result of a layoff" shall be made by the Company, in its sole and absolute discretion. Furthermore, any Andeavor Employee who was employed by Tesoro Hawaii, LLC as of September 25, 2013, the date of the sale by the Andeavor LLC of all of its interest in Tesoro Hawaii, LLC, shall be immediately 100% vested in his account as of such date, notwithstanding the foregoing schedule. Further, notwithstanding the foregoing, an Andeavor Employee whose Company Matching Contribution Account includes a Virent Matching SubAccount shall be entitled to such Virent Matching SubAccount only as determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 1 year	0%
1 year but less than 2 years	25%
2 years but less than 3 years	50%
3 years but less than 4 years	75%
4 years or more	100%

   Further, notwithstanding the foregoing, an Andeavor Employee whose Company Matching Contribution Account includes a Northern Tier Energy Matching SubAccount for matching contributions made under the Northern Tier Energy Retirement Savings Plan prior to January 1, 2017; a Giant Industries Matching SubAccount I for discretionary employer matching contributions made under the Giant Industries, Inc. & Affiliated Companies 401(k) Plan between January 1, 2004 and January 1, 2008; or a Northern Tier Energy Retail Savings Matching SubAccount for fixed profit sharing contributions made under the Northern Tier Retail Savings Plan, which assets transferred to the Northern Tier Energy Retirement Savings Plan, effective January 1, 2015; shall be entitled to such Northern Tier Energy Matching

SubAccount, such Giant Industries Matching SubAccount I, and such Northern Tier Energy Retail Savings Matching SubAccount as determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 3 years	0%
3 years or more	100%

Further, notwithstanding the foregoing, a Participant whose Company Matching Contribution Account includes a Western Refining Matching SubAccount for matching employer contributions made under the Western Refining & Affiliated Companies 401(k) Plan prior to January 1, 2002 shall be entitled to such Western Refining Matching SubAccount as determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 3 years	0%
3 years but less than 4 years	20%
4 years but less than 5 years	40%
5 years but less than 6 years	60%
6 years but less than 7	80%
7 years or more	100%

Finally, notwithstanding the foregoing, a Participant whose Nonelective Contribution Account includes a Western Refining Nonelective Contribution SubAccount for discretionary profit sharing nonelective contributions made under the Western Refining & Affiliated Companies 401(k) Plan on behalf of employees who were hired prior to January 1, 2017 and a Participant whose Company Matching Contribution Account includes a Giant Industries Matching SubAccount II for discretionary employer matching contributions made under the Giant Industries, Inc. & Affiliated Companies 401(k) Plan on behalf of employees who were hired prior to January 1, 2004 are immediately vested in such Western Refining Nonelective Contribution SubAccount and such Giant Industries Matching SubAccount II.

2. An Andeavor Employee shall 100% vest in his or her unvested accounts attributable to the Andeavor 401(k) Plan in the event of Disability while still employed by a member of the Controlled Group. This provision shall also apply to an Andeavor Employee who becomes disabled while performing Qualified Military Service, as if such individual had resumed employment on the day immediately preceding his or her Disability. “Disability” (and “disabled”) for these purposes means a physical or mental condition that renders the Andeavor Employee incapable of performing the work for which he or she was employed or similar work, as evidenced by eligibility for and receipt of Social Security disability benefits or, if applicable, disability benefits under the Company’s long-term disability plan with respect to which the Andeavor Employee is eligible to participate. “Qualified Military Service” for these purposes means service in the uniformed services (as defined in Chapter 42 of Title 38 of the United States Code) by the Andeavor Employee if such individual has reemployment rights under such Chapter with respect to such service.

3. Subject to the other provisions of this Appendix G, an Andeavor Employee’s nonvested amounts held under the Plan as of the 2019 Plan Merger Date, if any, shall be subject to the forfeiture and reinstatement rules under this Plan, which are the same as, or more favorable to members than that of, the Andeavor 401(k) Plan.

4. To the extent not otherwise provided for under the Plan's withdrawal rules for like contribution types, and subject to such procedures as the Plan Administrator may from time to time adopt, an Andeavor Employee may make the following withdrawals from that portion of his or her Plan account consisting of the following contribution types as defined under the Andeavor 401(k) Plan as then in effect on the 2019 Plan Merger Date:

   A. Employee Contributions. An Andeavor Employee may withdraw all or any part of the value of his or her Employee Contribution Account and, upon exhaustion of all amounts in such Participant's Employee Contribution Account, any part of the value of his Qualified Roth Transfer Account that is attributable to Employee Contributions at any time by submitting a request in such manner as prescribed by the Plan Administrator.

   B. Rollover Contributions. An Andeavor Employee may withdraw all or any part of the value of his or her Rollover Contribution Account and, upon exhaustion of all amounts in such individual's Rollover Contribution Account, any part of the value of his or her Qualified Roth Transfer Account that is attributable to Rollover Contributions at any time by submitting a request in such manner as prescribed by the Plan Administrator.

   C. Pre-2000 Company Matching Contributions. An Andeavor Employee may withdraw up to 100% of the value of his or her Company Matching Contribution Account that is attributable to Company Matching Contributions made to the Andeavor 401(k) Plan for periods ending prior to January 1, 2000 and, upon exhaustion of all such amounts, any part of the value of his or her Qualified Roth Transfer Account that is attributable to such pre- 2000 Company Matching Contributions at any time by submitting a request in such manner as prescribed by the Plan Administrator.

   D. Nonelective Contributions. An Andeavor Employee may withdraw all or any part of the value of his or her vested Nonelective Contribution Account, if any, and, upon exhaustion of all amounts in such individual's Nonelective Contribution Account, any part of the value of his or her Qualified Roth Transfer Account that is attributable to Nonelective Contributions at any time by submitting a request in such manner as prescribed by the Plan Administrator.

   E. ESOP Transfer Account. An Andeavor Employee who has withdrawn the balance of his or her Employee Contribution Account and Rollover Contribution Account may withdraw all or any part of the value of his or her ESOP Transfer Account at any time by submitting a request in such manner as prescribed by the Plan Administrator. The number of withdrawals made by an Andeavor Employee from his or her ESOP Transfer Account shall not exceed one withdrawal in a 12 month period.

5. The accounts specified in paragraphs 1, 2 and 4 above shall have the same meanings and shall include the same amounts as defined under the Andeavor 401(k) Plan as then in effect on the 2019 Plan Merger Date, as adjusted for earnings and losses after such date.

6. "Years of Service" for purposes of an Andeavor Employee's vesting in his or her accounts under paragraph 1 above shall be determined as defined under the Andeavor 401(k) Plan as then in effect on the 2019 Plan Merger Date. Additionally, for purposes of determining the vesting service (within the meaning of Section 11.02) of Andeavor Employees under the Plan, each Andeavor Employee shall be credited with no less than the same vesting service (and vested interest) such Andeavor Employee was credited with under the Andeavor 401(k) Plan immediately prior to the 2019 Plan Merger Date as provided in Appendix C.

7. Through June 30, 2019, the form of distribution rules under the Andeavor 401(k) Plan that were in effect on the 2019 Plan Merger Date shall continue to apply to an Andeavor Employee's vested amounts under the Andeavor 401(k) Plan as determined on the 2019 Plan

Merger Date, and with such amounts adjusted for earnings and losses; beginning July 1, 2019, the Plan’s form of distribution rules shall apply to such individuals and such amounts.

SPEEDWAY COMPONENT APPENDIX

This Speedway Component Appendix sets forth the provisions of the Speedway Component of the Marathon Petroleum Thrift Plan.

TABLE OF CONTENTS FOR THE SPEEDWAY COMPONENT OF THE MARATHON PETROLEUM THRIFT PLAN

ARTICLE I . Definitions

1.1 Definitions. The following terms when used herein with initial capital letters, unless the context clearly indicates otherwise, shall have the following respective meanings:

(1) Account. A Participant's entire account under this Plan, consisting of his or her Pre-Tax Basic Contributions Account, Pre-Tax Catch Up Contributions Account, After-Tax Contributions Account, Non-Roth Rollover Contributions Account, Non-Roth After-Tax Rollover Contributions Account, Roth Basic Contributions Account, Roth Catch Up Contributions Account, Roth Rollover Contributions Account, Roth In-Plan Conversion Account, Safe Harbor Employer Matching Contributions Account, Pre-2016 Employer Matching Contributions Account, Non-Elective Employer Contributions Account, Prior Plan After-Tax Contributions Account and Prior Plan Employer Contributions Account.

(2) Active Participant. An Eligible Employee of an Employer is an Active Participant for any period during which the Employee is receiving Considered Compensation and has elected to make Contributions to the Plan in accordance with Article III.

(3) Administrator or Plan Administrator. The Plan Administrator (also known as the Administrator under this Plan) shall be as defined and designated under the Primary Plan.

(4) After-Tax Contributions. The contributions which an Active Participant elects to make to the Plan in accordance with Section 3.2.

(5) After-Tax Contribution Account. That portion of the Trust Fund which, with respect to any Participant, is attributable to the Participant's own After-Tax Contributions and any investment earnings or losses thereon.

(6) Alternate Payee. A person who, pursuant to a QDRO, is entitled to all or any portion of the balance of the Account of a Participant or Beneficiary.

(7) Andeavor-Acquired Employees. Andeavor-Acquired Employees means active employees of Andeavor and its subsidiaries as of 11:59 P.M., September 30, 2018 (including employees of Andeavor and its subsidiaries who were on a leave of absence as of 11:59 P.M., September 30, 2018) and who on October 1, 2018, or soon thereafter, as a direct result of the closing of Marathon Petroleum Corporation's acquisition of Andeavor, became employees of the Company's Controlled Group and remain in such employee status as of 12:01 A.M., January 1, 2019.

In addition, former employees of Andeavor and its subsidiaries who as a result of being transferred, newly hired or rehired by Andeavor and its subsidiaries and who subsequently became employees of the Company's Controlled Group are also considered Andeavor-Acquired Employees, provided, that, their transfer, hire or rehire dates were during the period from October 1, 2018, through the end of the day on December 31, 2018, and, provided, further, that they remain in such employee status as of 12:01 A.M., January 1, 2019.

(8) Andeavor Retail Participant. (i) maintained an account balance under the Andeavor Retail 401(k) Plan, and (ii) had an amount (vested or nonvested) transferred from such account to the Plan pursuant to the April 30, 2019, merger of the Andeavor Retail 401(k) Plan into the Plan (such date is the "2019 Plan Merger Date").

(9) Beneficiary.

(a) In the case of a Participant other than an Alternate Payee, the Participant's Spouse or, if the Participant has no Spouse or the Participant's Spouse consents (in the manner hereinafter described in this paragraph) to the designation hereinafter provided for in this paragraph, such person or persons other than, or in addition to, the Participant's Spouse as may be designated by a Participant as his or her death beneficiary under the Plan. Such a designation may be made, revoked or changed only by an instrument (in form acceptable to the Administrator) which is signed by the Participant, which includes the Participant's Spouse's written consent to the action to be taken pursuant to such instrument (unless such action results in the Spouse being named as the Participant's sole Beneficiary), and which is filed with the Administrator before the Participant's death. A Spouse's consent required by this paragraph shall be signed by the Spouse, shall designate a Beneficiary (or a form of benefits) which may not be changed without spousal consent (unless the consent of the Spouse expressly permits designation by the Participant without any requirement of further consent by the Spouse), shall acknowledge the effect of such consent, shall be witnessed by a notary public and shall be effective only with respect to such Spouse.

(b) In the case of an Alternate Payee, such person or persons as may be designated by the Alternate Payee as the Alternate Payee's death beneficiary under the Plan. Such a designation may be made, revoked or changed only by an instrument (in form acceptable to the Administrator) which is signed by the Alternate Payee and filed with the Administrator before the Alternate Payee's death.

(c) If a Participant dies without a valid beneficiary designation, the Participant's Account(s) will be paid to the person or persons comprising the first surviving class of the classes listed in the order below and such person or persons will receive the funds in a single sum. The eligible classes are set forth below:

(i) The Participant's surviving Spouse;

(ii) The Participant's surviving children (either natural born or adopted through a final adoption order issued by a court of competent jurisdiction prior to the Participant's death) but specifically excluding stepchildren;

(iii) The Participant's surviving parents;

(iv) The Participant's surviving brothers and sisters;

(v) The executor or administrator of the Participant's estate.

(d) A Participant's divorce shall automatically revoke their former spouse as a designated beneficiary on the effective date of such divorce.

(10) <u>Catch-Up Contributions</u>. The contributions which an Active Participant elects to make to the Plan in accordance with Section 3.3.

(11) <u>Change in Control</u>. A change in control of Marathon Petroleum Corporation (the "Corporation") of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A promulgated under the Securities and Exchange Act of 1934, as amended (the "Exchange Act"), whether or not the Corporation is then subject to such reporting requirement; provided, that, without limitation, such a Change in Control shall be deemed to have occurred if:

(a) Any person (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) (a "Person") is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Corporation (not included in the securities beneficially owned by such person any such securities acquired directly from the Corporation or its affiliates) representing 20% or more of the combined voting power of the Corporation's then outstanding voting securities; provided, however, that for purposes of this Plan the term "Person" shall not include (i) the Corporation or any of its subsidiaries; (ii) a trustee or other fiduciary holding securities under an employee benefit plan of the Corporation or any of its subsidiaries; (iii) an underwriter temporarily holding securities pursuant to an offering of such securities; or (iv) a corporation owned, directly or indirectly, by the stockholders of the Corporation in substantially the same proportions as their ownership of stock of the Corporation; and provided further, however, that for purposes of this paragraph (a), there shall be excluded any Person who becomes such a beneficial owner in connection with an Excluded Transaction (as defined in paragraph (c) below); or

(b) The following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the date hereof, constitute the Board of Directors of the Corporation (the "Board") and any new directors (other than a director whose initial assumption of office is in connection with an actual or threatened election contest including, but not limited to, a consent solicitation, relating to the election of directors of the Corporation) whose appointment or election by the Board of the Corporation or nomination for election by the Corporation's stockholders was approved or recommended by a vote of at least two-thirds of the directors then still in office who either were directors on the date hereof or whose appointment, election or nomination for election was previously so approved or recommended; or

(c) There is consummated a merger or consolidation of the Corporation or any direct or indirect subsidiary thereof with any other corporation, other than a merger or consolidation (an "Excluded Transaction") which would result in the voting securities of the Corporation outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving corporation or any parent thereof) at least 50% of the combined voting power of the voting securities of the entity surviving the merger or consolidation (or the parent of such surviving entity) immediately after such merger or consolidation, or the shareholders of the Corporation approve a plan of complete liquidation of the Corporation, or there is consummated the sale or other disposition of all or substantially all of the Corporation's assets.

Notwithstanding any other provision to the contrary, in no event shall the transfer of ownership interests in the Company in and of itself constitute a Change in Control under this Plan.

(12) Code. The Internal Revenue Code of 1986, as amended.

(13) Company. Speedway LLC; provided, however, for purposes of Section 1.1(32), 1.1(64) and 6.1(6), and Articles IX, XI, XIII, XIV, and XV, and as otherwise required by the context for the operation of Marathon Petroleum Thrift Plan, "Company" shall mean Marathon Petroleum Company LP.

(14) Comparable Plan. A pension, profit sharing, or stock bonus plan which meets the requirements for qualification under Code Section 401(a) and is exempt from taxation under Code Section 501(a).

(15) Considered Compensation. A Participant's "compensation" as defined in Treasury Regulations Section 1.415(c)-2(d)(2), that is, a Participant's wages (including short-term disability payments made by an Employer), salaries, fees for professional services, and other amounts received (without regard to whether the amount is paid in cash) for personal services actually rendered in the course of employment with an Employer as an Employee during the relevant Plan Year to the extent that the amounts are includible in gross income (or to the extent the amounts would have been received and includible in gross income but for an election under Code Sections 125(a), 132(f)(4), 402(e)(3), 402(h)(1)(B), or 457(b)), reduced by all of the following items (even if includible in gross income): reimbursements or other expense allowances (including, but not limited to, relocation expenses, company-paid parking and transportation expenses, tax allowances, moving expenses and automobile allowances), fringe benefits (cash and non-cash), deferred compensation (including, but not limited to, performance share awards), certain employee prizes (including awards such as Marawards and awards similar thereto), premiums for group-term life insurance, and welfare benefits (exclusive of short-term disability benefits paid by an Employer). In addition, those items of compensation listed in Treasury Regulations Section 1.415(c)-2(c) are excluded. Considered Compensation does not include amounts earned for service with Controlled Group Members who are not Employers nor amounts earned other than as an Eligible Employee. Considered Compensation shall also include any differential wage payments (within the meaning of Code Section 3401(h)(2)) made to an Eligible Employee by an Employer.

Where an Eligible Employee terminates employment such that the Eligible Employee is no longer employed by a Controlled Group Member, Considered Compensation shall include regular compensation for services actually performed during regular working hours (including, but not limited to, overtime, geographic pay differentials, comp time, location premiums, commissions, and bonus compensation) that is paid after employment termination solely because the applicable pay date occurs after the Eligible Employee's employment is terminated, but shall not include, in any circumstance, (i) amounts paid after the later of the end of the Plan Year that includes the Eligible Employee's employment termination date or 2½ months after the employment termination date, (ii) remuneration for accrued vacation or other leave paid after the employment termination date; (iii) salary continuation paid after the employment termination date; or (iv) severance pay paid after the employment termination date. The maximum annual Considered Compensation recognized by the Plan for an Eligible Employee may not exceed the amount set forth under Code Section 401(a)(17), as adjusted from time to time in accordance with the law. Considered Compensation means Considered Compensation (as defined herein) paid during the Plan Year or such other consecutive 12-month period over which Considered Compensation is otherwise determined under the Plan ("determination period"). Any adjustment in accordance with the law in effect for a calendar year applies to Considered Compensation for the determination period that begins with or within such calendar year.

Additionally, in applying the annual Considered Compensation limit under Code Section 401(a)(17) to a member's Considered Compensation for purposes of Plan contributions, the member's Considered Compensation for such purpose shall be determined on the basis of the earliest payments of Considered Compensation during the Plan Year (the calendar year).

(16) Contributions. Contributions shall mean with respect to a Participant, the amount of the Participant's Pre-Tax Basic Contributions, Pre-Tax Catch Up Contributions, After-Tax Contributions, Non-Roth Rollover Contributions, Non-Roth After-Tax Rollover Contributions, Roth Basic Contributions, Roth Catch Up Contributions, Roth Rollover Contributions, Safe Harbor Employer Matching Contributions, Pre-2016 Employer Matching Contributions, Non-Elective Employer Contributions, Prior Plan After-Tax Contributions and Prior Plan Employer Contributions.

(17) Controlled Group. Controlled Group shall have the meaning as defined in the Primary Plan. Each corporation or unincorporated trade or business that is or was a member of the Controlled Group shall be referred to herein as a "Controlled Group Member," but only with respect to such period as it is or was such a member.

(18) Deferred Participant. A Deferred Participant is any Participant who ceases to have an employment relationship with any Controlled Group Member, does not qualify as a Retired Participant, and continues to maintain an open Account. Deferred Participants who have a vested Plan balance of $5,000 or less may maintain open accounts until no later than 60 days after their date of termination of employment or as soon as administratively feasible thereafter. All other Deferred Participants may maintain open accounts until no later than the April 1 immediately following the calendar year in which such Participants attain age 70½.

Notwithstanding anything to the contrary in the Plan, a WilcoHess Participant (as defined in Article I) who terminated employment with WilcoHess LLC (or a predecessor employer) prior to October 1, 2014, shall be a Deferred Participant; provided however, that if such WilcoHess Participant becomes employed by a member of the Controlled Group after October 1, 2014, his or her participation status shall be determined by the terms of this Plan.

Notwithstanding anything to the contrary in the Plan, an Andeavor Retail Participant (as defined in Article I) who terminated employment with Andeavor LLC (or an affiliate or predecessor thereof that was a participating employer in the Andeavor Retail 401(k) Plan) prior to May 1, 2019, shall be a Deferred Participant; provided, however, that if such Andeavor Retail Participant becomes employed by a member of the Controlled Group after April 30, 2019, his or her participation status shall be determined by the terms of this Plan.

(19) Disability or Disabled. Any permanent disability qualifying the Participant for disability benefits under the federal Social Security system or under the Employer's long-term disability program.

(20) Eligible Employee. An Employee who has satisfied the eligibility requirements as provided in this Plan and as defined in Section 2.2.

(21) Employee. An employee of a Controlled Group Member, including an officer but not a director as such, and including "leased employees" and individuals who are treated as Employees of a Controlled Group Member pursuant to regulations under Code Section 414(o). For purposes of this Subsection, a "leased employee" means any person who, pursuant to an agreement between a Controlled Group Member and any other person ("leasing organization"), has performed services for the Controlled Group Member on a substantially full-time basis for a period of at least one year, and such services are performed under the primary direction or control of the Controlled Group Member. Contributions or benefits provided a leased employee by the leasing organization which are attributable to services performed for a Controlled Group Member will be treated as provided by the Controlled Group Member. A leased employee will not be considered an Employee of a Controlled Group Member, however, if (a) leased employees do not constitute more than 20% of the Controlled Group Member's non-highly compensated work force (within the meaning of Code Section 414(n)(5)(C)(ii)) and (b) such leased employee is covered by a money purchase pension plan maintained by the leasing organization that provides (i) a nonintegrated employer contribution rate of at least 10% of compensation (including amounts contributed pursuant to a salary reduction agreement which are excludable from the leased employee's gross income under Code Sections 125, 402(e)(3), 402(h) or 403(b)), (ii) immediate participation and (iii) full and immediate vesting.

(22) Employer. Speedway LLC, Speedway PrePaid Card LLC, Northern Tier Retail LLC, Northern Tier Bakery LLC, Western Refining Retail LLC, or a corporation or other entity that is part of the Controlled Group and which has adopted this Plan pursuant to Section 14.1. Each of the entities described in the preceding sentence shall be considered an "Employer" under this Plan only during the period of time it has adopted this Plan. Effective May 14, 2021, all of these entities ceased being Employers participating in the Plan.

(23) Employer Matching Contributions. Contributions made by an Employer pursuant to Section 4.1 of the Plan.

(24) Employer Matching Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Employer Matching Contributions made on his or her behalf, and any investment earnings and gains and losses thereon. Separate records will be kept within a Participant's Employer Matching Contributions Account to reflect (a) the portion of such Account attributable to Employer Matching Contributions made to the Plan with respect to Considered Compensation paid prior to January 1, 2016, and any investment earnings and gains and losses thereon (the "Pre-2016 Employer Matching Contributions Account"), (b) the portion of such Account attributable to Employer Matching Contributions made to the Plan with respect to Considered Compensation paid on or after January 1, 2016, and any investment earnings and gains and losses thereon (the "Safe Harbor Employer Matching Contributions Account"), and (c) the portion of such Account attributable to Prior Plan Employer Contributions.

(25) ERISA. The Employee Retirement Income Security Act of 1974, as amended.

(26) Fiduciary. Any person who is a "fiduciary" as defined by ERISA Section 3(21) with respect to the Plan.

(27) Highly Compensated Employee. For a particular Plan Year, any Employee who was a "5-percent owner" as defined in Code Section 416(i) at any time during either the current Plan Year or the preceding Plan Year, or who received compensation (as determined under Section 12.1(4)) from the Controlled Group for the preceding Plan Year in excess of $135,000 (for a 2023 Plan Year determination) and was a member of the top-paid group for such preceding Plan Year. The following additional rules shall apply:

(i) The dollar threshold set forth in this Section 1.1(27) shall be increased to reflect any cost of living adjustments implemented by the Secretary of the Treasury pursuant to Code Section 415(d). The applicable dollar amount shall be the dollar amount for the calendar year in which the relevant Plan Year begins.

(ii) Former Employees who were Highly Compensated Employees either when they separated from service (or have a deemed separation within the meaning of regulations promulgated under Code Section 414(q)) or at any time after reaching an attained age of 55 shall always be considered Highly Compensated Employees.

(iii) Leased Employees who are covered by a "safe harbor" plan and who are not participants in any tax-qualified plan (under Code Section 401(a)) of the Controlled Group shall be included as employees for purposes of subparagraph (ii).

The determination of who is a Highly Compensated Employee, including the determinations of the number and identity of employees in the "top-paid group", shall be made in accordance with Code Section 414(q) and the Treasury Regulations issued thereunder.

(28) Hour of Service.

(a) Each hour for which an Employee is paid, or entitled to payment, for the performance of duties for the Controlled Group and for reasons other than the performance of duties and each hour for which back pay, irrespective of mitigation of damages, is either awarded or agreed to by the Controlled Group. The manner of determining Hours of Service for reasons other than the performance of duties and the crediting of Hours of Service to an applicable 12-month period following an Employee's employment date shall be in accordance with the rules and regulations as promulgated by the Secretary of Labor in DOL Regulation Sections 2530.200b-2(b) and (c).

(b) Hours of Service are credited under the following equivalency rule for exempt Employees for all periods and for non-exempt Employees on an accepted leave status covered under the Plan: 45 hours for a weekly payroll, and 90 hours for a bi-weekly payroll.

(29) Investment Advisor. An investment manager, as defined in ERISA Section 3(38).

(30) Investment Funds. The Funds provided for in Section 5.1.

(31) Loan Account. The separate recordkeeping account within a Participant's Account established by the Administrator pursuant to Section 5.5.

(32) Named Fiduciaries. The Named Fiduciaries under the Plan shall be the Company and the Administrator, each of which shall have such powers, duties and authorities as shall be specified in the Plan and Trust Agreement and may delegate all or any part of such powers, duties and authorities as hereinafter provided. Any other person may be designated as a Named Fiduciary as provided under the Primary Plan.

(33) Non-Elective Employer Contributions. Contributions made by an Employer pursuant to Section 4.2

(34) Non-Elective Employer Contributions Account. A Participant's Account reflecting Non-Elective Employer Contributions made for such Participant and any investment earnings and losses thereon.

(35) Non-Employee Participants. Non-Employee Participants include the following Participant categories:

(a) Deferred Participants. As defined in Section 1.1(18).

(b) Spouse Beneficiary Participant. A Spouse Beneficiary Participant is a Beneficiary who was the Spouse of an Active Participant, Retired Participant or a Participant with Account(s) in Suspense at the time of such Participant's death.

(c) Beneficiary Participants. A Beneficiary Participant is a Beneficiary, including the Beneficiary of a Spouse Beneficiary Participant (designated by the Participant or provided under the terms of this Plan).

(d) Alternate Payee Participant. As defined in Section 1.1(6).

(36) Participant. An individual who is or formerly was an Eligible Employee and has become and continues to be a Participant of this Plan in accordance with the provisions of Article II. Unless the context otherwise requires, certain individuals described in Section 1.1(35) who

have not been Eligible Employees are treated as Participants for certain purposes of the Plan, including, but not limited to, the withdrawal and distribution provisions of the Plan.

(37) Participant with Account(s) in Suspense. A Participant who (i) transfers at the request of his or her Employer to a non-participating employer within the Controlled Group (including a Participant who is reclassified into a position with an Employer that is excluded from participation in this Plan), or (ii) is an Eligible Employee of an Employer and has voluntarily or involuntarily had Participant contributions suspended (for example, a Participant on approved leave without Considered Compensation), will have his or her Account(s) held in suspense. A Deferred Participant who is subsequently rehired by a nonparticipating Controlled Group Member will be considered a Participant with Account(s) in Suspense. A Participant with Account(s) in Suspense includes an Employee who was an Active Participant but whose status is changed from a common law employee to a leased employee (as defined in Code Section 414(n)(2)) of a Controlled Group Member.

(38) Plan. As used in this Appendix, means the Speedway Component of the Marathon Petroleum Thrift Plan, provided, that where the context so requires, "Plan" also means the Primary Plan document and applicable provision(s) thereunder.

(39) Plan to Plan Transfer. A transfer to the Plan from a Comparable Plan of cash or other property (acceptable to the Administrator and the Trustee) held under the Comparable Plan for the benefit of an Eligible Employee.

(40) Plan Year. The 12-month period commencing on January 1st of each year and ending on the next following December 31st, and on which the primary records of the Plan and Trust Fund are to be kept.

(41) Pre-Tax Basic Contributions. The contributions which an Active Participant elects to make to the Plan in accordance with Section 3.1 on a pre-tax basis.

(42) Pre-Tax Basic Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Pre-Tax Basic Contributions made on his or her behalf, and any investment earnings and gains and losses thereon.

(43) Pre-Tax Catch-Up Contributions. The contributions that an Active Participant elects to make to the Plan in accordance with Section 3.3 on a pre-tax basis.

(44) Pre-Tax Catch-Up Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Pre-Tax Catch-Up Contributions made on his or her behalf, and any investment earnings and gains and losses thereon.

(45) Pre-Tax Contributions. The contributions an Active Participant elects to make to the Plan pursuant to a qualified cash or deferral arrangement, as defined in Code Section 401(k), and which are credited to the Participant's Pre-Tax Contributions Account in accordance with Section 3.1. Except as otherwise specifically provided in this Plan, the term "Pre-Tax Contributions" shall include Pre-Tax Basic Contributions and Pre-Tax Catch-Up Contributions.

(46) Pre-Tax Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Pre-Tax Basic and Pre-Tax Catch-Up Contributions made on his or her behalf, and any investment earnings and gains and losses thereon.

(47) Prior Plan After-Tax Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to amounts contributed by the Participant

on an after-tax basis to the Ashland Savings Plan, and any investment earnings and gains and losses thereon.

(48) Prior Plan Employer Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to amounts contributed as discretionary matching contribution on behalf of the Participant to the Ashland Savings Plan, and any investment earnings and gains and losses thereon.

(49) QDRO. A "qualified domestic relations order" within the meaning of Code Section 414(p).

(50) Retired Participant. Any Participant who terminated employment from a Controlled Group Member on or after January 1, 2016, either (a) on or after attaining age 50, with 10 Years of Vesting Service, or (b) on or after age 65.

(51) Rollover Contribution. The amount contributed to the Plan as a rollover contribution from an Eligible Retirement Plan in accordance with Section 3.4.

(52) Rollover Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Rollover Contributions made on the Participant's behalf, and any investment earnings and gains and losses thereon. Separate records will be kept within a Participant's Rollover Contributions Account to reflect (a) the portion of such Account attributable to Rollover Contributions that the Participant has irrevocably designated as Roth Rollover Contributions and any investment earnings and losses thereon (the "Roth Rollover Contributions Account"), (b) the portion of such Account attributable to all other Rollover Contributions, other than after-tax contributions, and any investment earnings and losses thereon (the "Non-Roth Rollover Contributions Account"), and the portion of such Account attributable to after-tax contributions made to a Comparable Plan and any investment earnings and losses thereon (the "Non-Roth After-Tax Rollover Contributions Account").

(53) Roth Basic Contributions. The contributions which an Active Participant elects to make to the Plan in accordance with Section 3.1 that are designated as Roth Basic Contributions.

(54) Roth Basic Contributions Account. The portion of the Trust Fund which, with respect to any Participant, is attributable to Roth Basic Contributions made on his or her behalf, and any investment earnings and gains and losses thereon.

(55) Roth Catch-Up Contributions. The contributions which an Active Participant elects to make to the Plan in accordance with Section 3.3 that are designated as Roth Contributions.

(56) Roth Catch-Up Contributions Account. That portion of the Trust Fund which, with respect to any Participant, is attributable to the Participant's own Roth Catch-Up Contributions and any investment earnings and losses thereon.

(57) Roth Contributions. Contributions of an Active Participant that the Active Participant has irrevocably designated as being contributed in lieu of all or a portion of the Pre-Tax Contributions that the Active Participant is otherwise entitled to make under the Plan and which are treated by the Employer as includible in the Active Participant's gross income pursuant to Code Section 402A at the time the Active Participant would have received that amount in cash if the Active Participant had not made such election. Except as otherwise specifically provided in this Plan, the term "Roth Contributions" shall include "Roth Basic Contributions" and "Roth Catch-Up Contributions," as described in Sections 3.1 and 3.3, respectively.

(58) Roth Contributions Account. The portion of a Participant's Account which contains the Participant's Roth Contributions and any investment earnings and losses thereon.

(59) Roth In-Plan Conversion. The amount which a Participant has irrevocably elected to roll over to a Roth In-Plan Conversion Account pursuant to Section 3.5.

(60) Roth In-Plan Conversion Account. The portion of a Participant's Account which contains Roth In-Plan Conversions and any investment earnings and losses thereon and which will consist of the applicable designated Roth subaccounts as provided for under Section 3.5 and as may further be determined from time to time by the Plan Administrator.

(61) Roth Rollover Contribution. The amount contributed to the Plan as a Roth rollover contribution from another tax-qualified plan in accordance with Section 3.4

(62) Spouse. The person to whom a Participant is legally married as of the relevant date, or an alternate payee designated as a Spouse pursuant to a QDRO. Individuals, whether part of an opposite-sex or same-sex couple, who have entered into a registered domestic partnership, civil union, or other similar formal relationship that is not denominated as marriage under the laws of that state, will not be treated as married under the Plan. For this purpose, the term "state" means any domestic or foreign jurisdiction having the legal authority to sanction marriages.

(63) Trust. The trust created by the Trust Agreement.

(64) Trust Agreement. The Trust Agreement between the Company and the Trustee, providing, among other things, for the Trust, the investment of the Trust Fund and allocations of responsibilities among Trustees, as such Trust Agreement may be amended, supplemented or restated from time to time.

(65) Trustee. The Trustee or Trustees designated in the Trust Agreement, or their successor or successors in trust under the Trust Agreement.

(66) Trust Fund. The entire trust estate held by the Trustee under the provisions of the Plan and the Trust Agreement, without distinction as to principal or income, and which shall be comprised of the Investment Funds.

(67) Valuation Date. Each day on which the New York Stock Exchange is open for trading.

(68) WilcoHess Participant. Anyone who (i) maintained an account balance under the WilcoHess Plan (as defined in the Preamble), and (ii) had an amount transferred to the Plan on the Plan Merger Date.

(69) Year of Vesting Service. A 12-consecutive month vesting computation period during which the Employee completes at least 1,000 Hours of Service. An Employee's initial vesting computation period will be the 12 consecutive month period commencing on the date the Employee first performs an Hour of Service and ends on the first anniversary of that date. Subsequent vesting computation periods for Employees shall mean the Plan Year, commencing with the Plan Year that includes such first anniversary.

1.2 Construction.

Unless the context otherwise indicates, the masculine wherever used herein shall include the feminine and neuter, the singular shall include the plural and words such as "herein", "hereof", "hereby", "hereunder", and words of similar import refer to this Plan as a whole and not to any particular part thereof.

(1) Where headings have been supplied to portions of this Plan, they have been supplied for convenience only and are not to be taken as limiting or extending the meanings of any of its provisions.

(2) Wherever the word "person" appears in this Plan, it shall refer to both natural and legal persons.

(3) Except to the extent federal law controls, the Plan shall be governed, construed and administered according to the laws of the State of Delaware. All persons accepting or claiming benefits under the Plan shall be bound by and deemed to consent to its provisions.

(4) This amendment and restatement of the Plan is effective as of August 1, 2020. Events occurring before the applicable effective date of any provision of this amendment and restatement of the Plan shall be governed by the applicable provision of the Plan in effect on the date of the event.

(5) A number of the provisions hereof and of the Trust Agreement are designed to contain provisions required or contemplated by certain federal laws and/or regulations thereunder. All such provisions herein and in the Trust Agreement are intended to have the meaning required or contemplated by such provisions of such law or regulations and shall be construed in accordance with valid regulations and valid published governmental rulings and interpretations of such provisions. In applying such provisions hereof or of the Trust Agreement, each Fiduciary may rely (and shall be protected in relying) on any determination or ruling made by any agency of the United States Government that has authority to issue regulations, rulings or determinations with respect to the federal law thus involved.

(6) The benefits payable, if any, under the Plan with respect to an Employee or former Employee whose employment with the Controlled Group terminated prior to August 1, 2020 (and who is not rehired by a Controlled Group Member on or after that date) or who ceased to be an Eligible Employee under this Plan prior to August 1, 2020 (and who does not again become an Eligible Employee on or after that date) shall be determined by and paid in accordance with the terms and provisions of the Plan as in effect at the date of such termination or the date such Employee or former Employee otherwise ceased to be an Eligible Employee.

ARTICLE II . Eligibility and Participation

2.1 Prior Participation. Each Employee, who was a Participant on July 31, 2020 and who continues to be an Eligible Employee on August 1, 2020 shall continue to be a Participant in this Plan on that date.

2.2 Eligibility. An Employee of an Employer who is credited with an Hour of Service by an Employer is an Eligible Employee provided the Employee is regularly classified as one of the following:

- an Employee in salary grade 11 or below, or
- a salary grade 12 or above Employee, provided, that this classification became effective after December 31, 2018, as a new hire, rehire, transferee or an Employee receiving a promotion.

In addition, in order to be an Eligible Employee, the Employee must meet the following eligibility requirements and not be part of the following described exclusions:

1) The Employee is employed by an Employer and receives a Form W-2 from the Participating Employer for such employment.

2) The Employee meets the participation requirements as may be specified in Addendum B, Service for prior employers.

3) Specifically excluded from eligibility to participate in the Plan are any individuals who have signed an agreement or have otherwise agreed to provide services to an Employer as an independent contractor, regardless of the tax or other legal consequences of such an arrangement. Also, specifically excluded are leased Employees compensated through a leasing entity, whether or not the leased Employee falls within the definition of "leased employee" as defined in Code Section 414(n).

4) An Employee shall not be eligible to participate in the Plan if the Employee is covered by a collective bargaining agreement (unless such agreement provides for participation in the Plan) or if Employee is subject to any other employment agreement or contract that waives or excludes participation in the Plan.

All Andeavor-Acquired Employees are excluded from being Eligible Employees through the end of the day December 31, 2018. As Eligible Employees defined in this Section 2.2, their first eligibility commenced at 12:01 A.M. on January 1, 2019.

An Eligible Employee shall become a Participant in this Plan as soon as administratively feasible following the date on which the Employee satisfies the eligibility requirements of this Section 2.2.

2.3 Duration of Participation. An Eligible Employee who has become a Participant shall remain a Participant in the Plan so long as an Account is held for the Participant's benefit; provided, however, no further contributions, other than Rollover Contributions, will be made to the Plan by or for a Participant who ceases to be an Eligible Employee with respect to the period after the Employee ceases to be an Eligible Employee. A Participant who has ceased to be an Eligible Employee but who subsequently is an Eligible Employee shall be considered to be eligible to participate in the Plan commencing on the date such Participant again becomes an Eligible Employee.

2.4 Veterans Reemployment. Notwithstanding any provision of this Plan to the contrary, contributions, benefits and service credit with respect to "qualified military service" will be provided in accordance with Code Section 414(u). "Qualified military service" means any service in the uniformed services (as defined in chapter 43 of title 38 of the United States Code) by any individual if such individual is entitled to reemployment rights under such chapter with respect to such service.

ARTICLE III. Participant Contributions

3.1 Pre-Tax Contributions; Roth Contributions. Each Active Participant may elect to make Pre-Tax Contributions to the Plan from 1% to 75% of the Participant's Considered Compensation (in whole percentages only) as Pre-Tax Basic Contributions and/or Roth Basic Contributions in lieu of an equal amount being paid as current Considered Compensation. Pre-Tax Basic and/or Roth Basic Contributions are made through payroll deductions.

Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 3.1, 3.2, and 3.3 is 75%.

3.2 After-Tax Contributions. Each Active Participant may elect to make After-Tax Contributions from 1% to 75% (in whole percentages only) of the Participant's Considered Compensation; provided, however, that an Active Participant who is a Highly Compensated Employee may only elect to make After-Tax Contributions from 1% to 2% (in whole percentages only) of Considered Compensation. After-Tax Contributions are made through payroll deductions. Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 3.1, 3.2, and 3.3 is 75%.

3.3 Catch-Up Contributions. Active Participants who have attained age 50 before the close of the Plan Year shall be eligible to make Catch-Up Contributions for such Plan Year in accordance with, and subject to the limitations of, Code Section 414(v). Catch-Up Contributions shall not be taken into account for purposes of the provisions of the Plan implementing the required limitations of Code Sections 402(g) and 415.

Active Participants may elect to make Catch-Up Contributions from 1% to 75% (in whole percentages only) of Considered Compensation. Catch-Up Contributions shall be permitted only by Participants with respect to whom no Pre-Tax Contributions or Roth Basic Contributions may be made to the Plan for that taxable year by reason of the application of the Code Section 402(g) limit, the limit in Section 3.1 or any other limitations on Pre-Tax Contributions or Roth Basic Contributions for that taxable year in accordance with, and subject to the limits of Code Section 414(v). Participants must specify whether their Catch-Up Contributions will be Pre-Tax Catch-Up Contributions or Roth Catch-Up Contributions, and if the Participant does not designate whether the Catch-Up Contributions to be made are to be Pre-Tax Catch-Up Contributions or Roth Catch-Up Contributions, such contributions shall be deemed to be Pre-Tax Catch-Up Contributions. Catch-Up Contributions may not exceed a maximum annual dollar limit pursuant to Code Section 414(v), as adjusted from time to time in accordance with the law. Notwithstanding the foregoing, the maximum combined contribution percentage under Sections 3.1, 3.2, and 3.3 is 75%.

3.4 Rollover Contributions and Plan to Plan Transfers.

(1) Active Participants, Participants with Account(s) in Suspense, and Retired Participants may make Rollover Contributions or Plan to Plan Transfers of qualified distributions from any tax-qualified plan or any individual retirement account described in Code Section 408(d)(3)(A)(ii). However, Roth Rollover Contributions will only be accepted from another tax-qualified plan described in Code Section 401(a). The Plan will not accept Rollover Contributions or Plan to Plan Transfers from a Code Section 403(a) plan or a Roth IRA. For purposes of this Section 3.4, "tax-qualified plan" means:

(a) A qualified plan described in Code Section 401(a) or 403(b), including after-tax employee contributions held thereunder; and

(b) An eligible plan under Code Section 457(b) which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.

(2) Deferred Participants and prior Deferred Participants may also make Rollover Contributions (but not Plan to Plan Transfers) from any of the above. Individuals who are eligible to become Active Participants, but have elected not to contribute to the Plan or have previously elected to withdraw their entire account balance, are permitted to make Rollover Contributions to the Plan. The Plan may also accept Rollover Contributions from prior

Participants with Account(s) in Suspense and Retired Participants who previously received a distribution of their entire Account balance. Subject to Administrator approval, Spouse Beneficiary Participants have the right to roll over distributions from qualified retirement plans sponsored by any employer whereby the Plan has recognized vesting time for prior service of the deceased Participant. This right is limited solely to Spouse Beneficiary Participants to the extent such is permitted by applicable laws and regulations.

(3) All such Rollover Contributions or Plan to Plan Transfers must consist of cash, unless the Administrator agrees, in its sole discretion, to accept any property other than cash. The individual must submit written certification that the Rollover Contribution or Plan to Plan Transfer qualifies as a Rollover Contribution or Plan to Plan Transfer. Rollover Contributions must be made within 60 days after the eligible individual has received the distribution from the applicable eligible retirement plan or IRA.

3.5 Roth In-Plan Conversions. A Participant may elect, in accordance with rules prescribed by the Plan Administrator, to roll over ("convert") to a Roth In-Plan Conversion Account all or a portion of their Account balances consisting of vested amounts that are distributable and eligible for rollover and vested amounts that are not otherwise distributable, in each case exclusive of any amounts that are currently held in any designated Roth subaccount under the Plan. Any such election will be irrevocable. Conversions will be processed as in-kind transactions. Each amount so converted will be the Participant's Roth In-Plan Conversion. The Plan-designated Roth subaccounts under the Roth In-Plan Conversion Account for a Roth In-Plan Conversion will be established by the Plan Administrator and currently are as follows:

(1) *Roth In-Plan Conversion Account*, which is an unrestricted account for Roth In-Plan Conversions of vested account balances or portions thereof provided that such conversion amounts are not from Pre-Tax Basic Contributions, Pre-Tax Catch Up Contributions, and Safe Harbor Employer Matching Contributions Account sources;

(2) *Roth In-Plan Conversion Employee Account*, which is a restricted account limited to Roth In-Plan Conversions of vested account balances or portions thereof from Pre-Tax Contributions and Pre-Tax Catch Up Contributions Accounts; and

(3) *Roth In-Plan Conversion Employer Account*, which is a restricted account limited to Roth In-Plan Conversions of vested account balances or portions thereof from the Safe Harbor Employer Matching Contributions Account.

The Roth In-Plan Conversion Account will not otherwise accept contributions or rollovers (other than conversion type rollovers as provided for in this Section 3.5).

Roth In-Plan Conversion amounts allocated to the Roth In-Plan Conversion Account will be subject to the Plan rules governing the accounts that provided the source of funds for conversion. Once converted, any withdrawal restrictions will be maintained, and such converted amounts cannot be transferred back to their original source.

Outstanding loan balances and amounts held in the Plan's BrokerageLink investment option are not eligible for Roth In-Plan Conversion.

Roth In-Plan Conversion amounts attributable to non-distributable amounts will continue to be subject to the same distribution restrictions that applied prior to conversion, and no conversion under this Section 3.5 will eliminate any Code Section 411(d)(6) protected distribution rights attributable to the amount converted.

Amounts converted will be included in gross income of the Participant to the extent they would be included in gross income as if distributed in the year of conversion.

The provisions of this Section 3.5 with respect to amounts that are not otherwise distributable, as permitted under Code Section 402A(c)(4)(E), are intended to comply in good faith with such Code provision and the guidance applicable to same.

3.6 Contribution Elections. An Eligible Employee who becomes (or will become) a Participant under Section 2.2 may make an election in a manner prescribed by the Administrator in which he or she (i) designates the percentage of Considered Compensation to be contributed as Pre-Tax and/or Roth Basic Contributions, including whether any Catch-Up Contributions will be made, (ii) authorizes applicable payroll deductions and (iii) chooses one or more Investment Fund(s). In the event that a Participant does not designate on his or her application whether the contributions elected to be made are Pre-Tax or Roth Basic Contributions, all contributions elected on such application shall be deemed to be Pre-Tax Basic Contributions.

3.7 Change in Participant Contributions. Subject to the provisions of this Article III, Active Participants may elect to change the percentages of their authorized payroll deductions and/or elect to automatically increase the percentage of their authorized payroll deductions by giving notice to the Administrator in such manner as the Administrator may prescribe. Such changed percentage and/or automatic increase election shall become effective beginning with the first payroll period commencing after processing such notice or, if later, on a future date specified by the Participant and acceptable to the Administrator.

3.8 Automatic Increase Program. Active Participants may elect to enroll in a program that will automatically increase their rate of contributions on an annual basis. A Participant choosing to participate in the program must elect an increase amount, in whole percentages of Considered Compensation only, and a date on which the increase is to be applied each Plan Year. Subject to the Plan and statutory limits, the increase will be applied to the Participant's election for Pre-Tax Basic Contributions and Roth Basic Contributions to the extent possible and then to the Participant's election for After-Tax Contributions. A Participant may elect to voluntarily terminate his or her participation in this program at any time. Any election to voluntarily terminate participation in the program shall become effective as soon as administratively possible after the election has been properly made with the Administrator.

3.9 Restrictions on Pre-Tax Contributions and Roth Contributions.

(1) In no event may the sum of Pre-Tax Contributions and/or Roth Contributions (but excluding any Catch-Up Contributions) exceed the applicable dollar limit as provided in Code Section 402(g) in a calendar year. In the event the annual dollar limit provided in Code Section 402(g) is reached with respect to a Participant during a calendar year, no additional Pre-Tax Contributions or Roth Contributions, other than Catch-Up Contributions, shall be permitted to be made to the Plan on behalf of the Participant for the remainder of that calendar year.

(2) Notwithstanding any provision of the Plan to the contrary, Allocable Excess Contributions, and income allocable thereto to the end of the calendar year for which such Allocable Excess Contributions were made, shall be distributed no later than April 15 to Participants who claim Allocable Excess Contributions for the preceding calendar year. "Allocable Excess Contributions" shall mean the amount of Pre-Tax Contributions or Roth Contributions (but excluding any Catch-Up Contributions) for a calendar year that the Participant allocates to this Plan that exceed the limits of Code Section 402(g). In the event that a Participant's Allocable Excess Contributions include both Pre-Tax Contributions and Roth Contributions, the Plan shall distribute Pre-Tax Contributions first.

(3) Any Allocable Excess Contributions will first be transferred to the After-Tax Contribution Account, up to the limit, and subject to the eligibility conditions of Section 3.2, with any remaining balance distributed in accordance with this Section 3.9. The Allocable Excess Contributions distributed to a Participant with respect to a calendar year shall be adjusted for income allocable thereto to the end of the calendar year for which such Allocable Excess Contributions were made and, if there is a loss allocable to the Allocable Excess Contributions, shall in no event be less than the lesser of the Participant's Accounts attributable to Pre-Tax Contributions or Roth Contributions under the Plan or the Participant's Pre-Tax Contributions or Roth Contributions for the calendar year.

(4) Employer Matching Contributions, if any, made with respect to such Allocable Excess Contributions distributed to a Participant pursuant to this Section 3.9 shall be forfeited.

ARTICLE IV. Participant Contributions

4.1 Employer Matching Contributions. The Employer shall contribute, for each pay period, an Employer Matching Contribution in the amount of 117% of the amount of Pre-Tax Basic Contributions, After-Tax Contributions, and/or Roth Basic Contributions made for each Active Participant that do not exceed 6% of such Participant's Considered Compensation; provided, however, that the Employer will not contribute Matching Contributions on behalf of a Participant who is covered by a collective bargaining agreement with the Active Participant's Employer unless the Employer has entered into a definitive agreement with a Participant's union expressly requiring the Employer to contribute matching contributions. The Employer will true-up Employer Matching Contributions following the end of the Plan Year so that the amount of the Participant's Employer Matching Contributions for the Plan Year equals the amount determined under the Matching Contribution formula provided in this Section 4.1 using the Participant's Considered Compensation and eligible Contributions (including for this purpose Pre-Tax Catch Up Contributions and Roth Catch Up Contributions) for the Plan Year. In no event will the Employer match Rollover Contributions, Plan to Plan Transfers or Roth In-Plan Conversions.

4.2 Non-Elective Employer Contributions.

(1) Initial Eligibility Requirements. To be initially eligible for the Non-Elective Employer Contribution, a Participant must satisfy the following conditions:

(a) The Participant has attained age 21;

(b) The Participant has completed 1,000 Hours of Service during an Eligibility Computation Period. For this purpose, the initial Eligibility Computation Period will be the twelve consecutive month period commencing on the date the Employee first performs an Hour of Service and ends on the first anniversary of that date. Subsequent Eligibility Computation Periods for Employees shall mean the Plan Year, commencing with the Plan Year that includes such first anniversary. The determination of whether a Participant has completed 1,000 Hours of Service shall be made as of the last date of the Eligibility Computation Period, and a Participant will not be considered to have satisfied the Initial Eligibility Requirements until such last date of the Eligibility Computation Period.

(2) Continuing Eligibility Requirements. Participants who have satisfied the Initial Eligibility Requirements in Section 4.2(1) shall receive a Non-Elective Employer Contribution for a Plan Year only if the Participant satisfies the Continuing Eligibility Requirements set forth in this Section 4.2(2) for such Plan Year:

(a) The Participant is classified by the Company as employed in an Eligible Position. An Eligible Position is a Speedway store employee other than (i) a store employee covered by a collective bargaining agreement (unless such agreement or other agreement between the applicable union and Employer specifically requires the Non-Elective Employer Contribution), (ii) a store employee classified in salary grade 4 and above, and who does not otherwise meet the requirements of the Special Rule in clause (iii) of this paragraph (a), or (iii), effective September 30, 2020, a store employee who, on account of a promotion to an assistant manager trainee or similar store level position, or any other non-store position on or after August 2, 2020 and prior to January 1, 2021, would otherwise be subject to the rule in clause (ii) of this paragraph (a) and who would have otherwise been eligible to enter the Speedway Retirement Plan under that plan's eligibility rules in effect on August 1, 2020 (the "Special Rule");

(b) The Participant was credited with at least 1,000 Hours of Service during the Plan Year; and

(c) The Participant was employed by a Controlled Group Member on the last day of the Plan Year.

For the 2021 Plan Year: (i) paragraph (b) of this Section 4.2(2) will be deemed to be satisfied if the Participant was credited with at least 320 Hours of Service during the period January 1, 2021 through April 30, 2021; and (ii) paragraph (c) of this Section 4.2(2) will be deemed to be satisfied if the Participant was employed by a Controlled Group Member on May 13, 2021. The rules in the previous sentence are the "Special Accommodation." Any Non-Elective Employer Contribution resulting from application of the Special Accommodation shall be deemed as having accrued as at the close of May 13, 2021.

(3) Exception to Continuing Eligibility Requirement. The requirements of paragraphs 4.2(2)(b) or (c) shall not apply for a Plan Year to Participants who become Disabled, terminate employment after attaining age 65 or after attaining age 50 with 10 Years of Vesting Service, or die during such Plan Year.

(4) Non-Elective Employer Contribution. On behalf of each Participant who satisfies the Initial Eligibility Requirements (as determined under Section 4.2(1)) and the Continuing Eligibility Requirements for the Plan Year (as determined under Section 4.2(2), as modified by Section 4.2(3)), the Employer shall contribute an amount equal to 3.5% of a Participant's Considered Compensation received during the Plan Year; provided, however, that the Non-Elective Employer Contribution shall be based only on Considered Compensation paid to the Participant (i) after the date on which the Participant satisfies the Initial Eligibility Requirements, and (ii) with respect to the time period during which the Participant was classified by the Company as employed in an Eligible Position.

4.3 <u>Employer Contributions</u>. Contributions of the Employer under this Article IV shall in no event exceed the limitations on deductions from gross income under the provisions of the Code and such amounts to be contributed shall be conditioned upon such deductibility. All Employer Matching and Non-Elective Employer Contributions for any Plan Year shall be made on or before the due date (including extensions) for filing the income tax returns of the Employers for the taxable year coinciding with such Plan Year.

4.4 <u>Return of Contributions to Employers</u>.

(1) Except as provided in Subsection (2) of this Section 4.4, the Trust Fund shall never inure to the benefit of any Employer and shall be held for the exclusive purpose of

providing benefits to Participants and their Beneficiaries and defraying reasonable expenses of administering the Plan.

(2) If the Internal Revenue Service shall determine that an Employer has contributed an amount for any Plan Year which is in excess of the amount which is deductible by it under Code Section 404 for such Year, such contribution (to the extent the deduction is disallowed) shall, upon written request of the Employer filed with the Trustee, be returned to the Employer within one year after the deduction was disallowed. If any contribution is made by an Employer due to a mistake of fact, such contribution shall, upon written request of the Employer filed with the Trustee, be returned to the Employer within one year after it is made. Earnings attributable to contributions returned to an Employer pursuant to this Subsection may not be returned, but losses attributable thereto shall reduce the amount to be returned; provided, however, that if the withdrawal of the amount attributable to the mistaken or non-deductible contribution would cause the balance of the individual Account of any Participant to be reduced to less than the balance that would have been in such Account had the mistaken or non-deductible amount not have been contributed, the amount to be returned to the Employer pursuant to this Section 4.4 shall be limited so as to avoid such reduction.

4.5 Safe Harbor Provisions. The nondiscrimination requirements of Code Section 401(k) will be met by this Plan pursuant to the ADP safe harbor provisions of Code Section 401(k)(12) and Treasury Regulations Section 1.401(k)-3; the safe harbor contribution will be the Safe Harbor Employer Matching Contribution. The nondiscrimination requirements of Code Section 401(m) will be met by this Plan pursuant to the ACP safe harbor provisions of Code Section 401(m)(11) and Treasury Regulations Section 1.401(m)-3 and by the fact that no Highly Compensated Employee is eligible to contribute After-Tax Contributions; the safe harbor contribution will be the Safe Harbor Employer Matching Contribution.

ARTICLE V . Investments; Loans

5.1 Investment of Funds.

(1) The Trust Fund (other than the portion of the Trust Fund consisting of the Loan Accounts) shall be divided into Investment Funds, as the Investment Committee may in its discretion select or establish. Each such Investment Fund shall comply with applicable law, including ERISA. The Investment Funds shall include a Marathon Petroleum Corporation Common Stock Fund, which will invest in Marathon Petroleum Corporation common stock, with a small portion invested in cash for liquidity purposes. The Trustee shall hold, manage, administer, invest, reinvest, account for and otherwise deal with the Trust Fund and each separate Investment Fund as provided in the Trust Agreement.

(2) Upon becoming a Participant and at any time thereafter, each Participant may elect, pursuant to rules and procedures adopted by the Administrator, and effective at such time as prescribed by the Administrator, that future Contributions made on the Participant's behalf, as well as repayments of a loan made pursuant to Section 5.5, shall be invested in any proportion in any one or more Investment Funds. Each Eligible Employee may elect, pursuant to rules and procedures adopted by the Administrator, and effective at such time as prescribed by the Administrator, upon making a Rollover Contribution or having a Plan to Plan Transfer made on the Participant's behalf that the assets contributed to the Plan on his or her behalf in such Rollover Contribution or Plan to Plan Transfer shall be invested in any proportion in any one or more Investment Funds. In the absence of a Participant's effective direction pursuant to this Section 5.1(2) as to the investment of all or a portion of the amounts in a Participant's Account, the amounts for which there is no such direction shall be invested in the Investment Fund or Funds designated by the Investment Committee for such purpose (each of which shall be a

“qualified default investment alternative” within the meaning of the Department of Labor regulations).

(3) Subject to rules established by the Administrator, a Participant may direct that any portion of his or her Account (other than the Loan Account) be reallocated in any proportion among the Investment Funds.

(4) The employer security diversification requirements of Code Section 401(a)(35) (the “Diversification Requirements”) apply to the Plan because the Investment Funds include the Marathon Petroleum Corporation Common Stock Fund (for purposes of this Section 5.1(4), the “Common Stock Fund”). Therefore, each Active Participant, Participant with Account(s) in Suspense, Retired Participant, and Non-Employee Participant shall be entitled to direct the Plan, pursuant to the investment designation rules and procedures established by the Plan Administrator pursuant to the Plan, to transfer the portion of such Participant’s Account balance that is invested in the Common Stock Fund in a manner that meets the Diversification Requirements as described in this Section 5.1(4).

(a) No Length of Service Requirement to Diversify: The Plan imposes no years of service or similar length of employment requirement that Participants must satisfy in order to transfer Account balances that are invested in the Common Stock Fund to other Investment Funds.

(b) Investment Funds for Reinvestment of Common Stock Fund Account Balances: The Investment Funds available to Participants for the reinvestment of their Account balances shall include not less than three Investment Funds, each of which is diversified and has materially different risk and return characteristics. For this purpose, Investment Funds that constitute a broad range of investment alternatives within the meaning of DOL Regulations Section 2550.404c-1(b)(3) are treated as diversified and having materially different risk and return characteristics.

(c) Divestment and Reinvestment Opportunities, Restrictions and Conditions: The investment designation rules and procedures established by the Plan Administrator pursuant to the Plan shall meet the Diversification Requirements, and in such regard (A) shall provide Participants with reasonable divestment and reinvestment opportunities with respect to the Common Stock Fund at least quarterly and (B) shall not impose any restrictions or conditions with respect to the investment in the Common Stock Fund that are not imposed on the investment in the other Investment Funds, except for restrictions and conditions that are permitted by Treasury Regulations Section 1.401(a)(35)-1. Such permitted restrictions and conditions include, among others, restrictions and conditions that are required or reasonably designed to ensure compliance with applicable securities laws, to limit the extent to which a Participant’s Account may be invested in the Common Stock Fund, and to limit short-term trading in the Common Stock Fund.

5.2 Account. Each Participant shall have established for him by the Administrator an Account which reflects, to the extent applicable, the Participant’s Pre-Tax Basic Contributions Account, Pre-Tax Catch Up Contributions Account, After-Tax Contributions Account, Roth Basic Contributions Account, Roth Catch Up Contributions Account, Safe Harbor Employer Matching Contributions Account, Pre-2016 Employer Matching Contributions Account, Non-Elective Employer Contributions Account, Non-Roth Rollover Contributions Account, Roth Rollover Contributions Account, Non-Roth After Tax Contributions Account, Roth In-Plan Conversion Account, Prior Plan After-Tax Contributions Account and Prior Plan Employer Contributions Account. The After-Tax Contributions Account and the Prior Plan After-Tax Contributions Account shall separately reflect the Participant’s After-Tax Contributions and the earnings thereon. In the case of any individual with respect to whom a Plan to Plan Transfer has been made, the Rollover Contributions Account shall be further subdivided and separate records maintained to reflect the Participant's after-tax employee contributions to the plan from which the Plan to Plan Transfer originated, the earnings thereon, the employer contributions made on behalf of the Participant to the plan from which the Plan to Plan Transfer originated and the earnings thereon. An Alternate Payee's Account shall be created by allocation from the Account of the Participant to whom the QDRO relates to a new account established for the Alternate Payee such portion of the Participant's Account as is specified in the applicable QDRO. The Administrator shall also maintain for each such Account separate records showing the amount of contributions thereto, payments, withdrawals and, in the case of the Non-Elective Employer Contributions Account and the Pre-2016 Employer Matching Contributions Account, forfeitures therefrom, and the amount of income, expenses, gains and losses attributable thereto. The interest of each Participant hereunder at any time shall consist of the amount standing to the Participant's Account (as determined in Section 5.4 below) as of the last preceding Valuation Date plus credits and minus debits to such Account since that Valuation Date.

5.3 Reports. The Administrator shall cause reports to be made at least annually to each Participant as to the value of the Participant's Account. In addition, the Administrator shall cause such a report to be made to each Participant who terminates his or her employment with the Controlled Group.

5.4 Valuation of Accounts.

(1) As of the close of business on each Valuation Date, the Trustee shall determine the value of each Participant's Account as provided in the Plan and the Trust Agreement. Except as may otherwise be provided by the Administrator, all Contributions shall be credited to each Participant's Account as of the close of business on the Valuation Date on which the Trustee has received such Contributions.

(2) The Trustee shall make each valuation described in Subsection (1) on the basis of the market value (as determined by the Trustee) of the assets of each Investment Fund, except that property which the Trustee determines does not have a readily determinable market value shall be valued at fair market value as determined by the Trustee in such manner as it deems appropriate.

(3) The Trustee shall determine, from the change in value of each Investment Fund between the current Valuation Date and the then last preceding Valuation Date, the net gain or loss of each such Investment Fund during such period resulting from expenses paid and realized and unrealized earnings, profits and losses of such Investment Fund during such period. Contributions allocated to an Investment Fund described in this Subsection and payments, distributions and withdrawals from any such Investment Fund to provide benefits under the Plan for Participants or Beneficiaries shall not be deemed to be earnings, profits, expenses or losses of such Investment Fund. The net gain or loss of each Investment Fund determined pursuant to this Subsection shall be allocated as of each Valuation Date by the Trustee to the Accounts of Participants in such Investment Fund in proportion to the amounts of such Accounts invested in such Investment Fund on such Valuation Date, exclusive of amounts to be credited or debited to such Accounts as of such Valuation Date.

(4) The total value of a Participant's Account on each Valuation Date shall be the value determined under the preceding provisions of this Section 5.4 for the portions of the Account invested in the respective Investment Funds described in such provisions, plus the value of a Participant's Loan Account on the last preceding Valuation Date on which the Administrator valued such Loan Account pursuant to Section 5.5(3), reduced by any fees or expenses charged against the Account on any Valuation Date in accordance with the terms of this Plan or Trust.

(5) The reasonable and equitable decision of the Trustee as to the value of each Investment Fund, and as to the value of each Participant Account, as of each Valuation Date shall be conclusive and binding upon all persons having any interest, direct or indirect, in such Investment Fund or Account.

5.5 Loans to Participants.

(1) A Participant or a Non-Employee Participant or Retired Participant who is a "party in interest" as determined under ERISA Section 3(14) (each a "Participant" for purposes of this Section 5.5, may apply for a loan from his or her Account (not including any portion of the Participant's Non-Elective Employer Contributions Account) in the manner prescribed by the Administrator. Each loan shall be charged against the Participant's Accounts in the order established by the Administrator.

(2) Each loan shall be in an amount which is not less than $500. A Participant can initiate a new loan if the Participant has no more than one loan outstanding. Notwithstanding the foregoing, the maximum loan to any Participant (when added to the outstanding balance of all other loans to the Participant from all qualified employer plans (as defined in Code Section 72(p)(4)) of the Controlled Group) shall be an amount which does not exceed the lesser of:

(a) $50,000, reduced by the excess (if any) of (i) the highest outstanding balance of such other loans during the one-year period ending on the day before the date on which such loan is made, over (ii) the outstanding balance of such other loans on the date on which such loan is made, or

(b) 50% of the value of such Participant's vested Accounts (not including any portion of the Participant's Non-Elective Employer Contributions Account) on the date on which such loan is made.

(3) For each Participant for whom a loan is authorized pursuant to this Section 5.5, the Trustee shall (a) liquidate the Participant's interest in the Investment Funds as determined by the Administrator, to the extent necessary to provide funds for the loan, (b) disburse such funds to the Participant upon the Participant's execution of the promissory note and security agreement referred to in Subsection (4)(d) of this Section 5.5, and (c) maintain copies of the Participant's executed promissory note and security agreement referred to in Subsection (4)(d) of this Section 5.5. The Administrator shall establish and maintain a separate recordkeeping account within the Participant's Account (the "Loan Account") (d) which initially shall be in the amount of the loan, (e) to which the funds for the loan shall be deemed to have been allocated and then disbursed to the Participant, (f) to which the promissory note shall be allocated and (g) which shall show the unpaid principal of and interest on the promissory note from time to time. All payments of principal and interest by a Participant shall be credited initially to the Loan Account and applied against the Participant's promissory note, and then invested in the Investment Funds pursuant to Section 5.1(2). The Administrator shall value each Participant's Loan Account for purposes of Section 5.4 at such times as the Administrator shall deem appropriate, but not less frequently than monthly.

(4) Loans made pursuant to this Section 5.5, (a) shall be made available to all Participants on a reasonably equivalent basis, (b) shall not be made available to Highly Compensated Employees in a percentage amount greater than the percentage amount made available to other Participants, (c) shall be secured by the Participant's Loan Account; and (d) shall be evidenced by a promissory note and security agreement executed by the Participant. Such promissory note and security agreement shall provide for (e) the security referred to in clause (c) of this Subsection, (f) a rate of interest for the loan, consistent with the rate being charged by other lending institutions for a similar loan to an unrelated borrower on the same

date, (g) repayment within a specified period of time, which shall not extend beyond five years, (h) repayment in equal payments over the term of the loan, with payments not less frequently than quarterly, and (i) for such other terms and conditions as the Administrator shall determine.

(5) Each loan made pursuant to this Section 5.5 to a Participant who is an Employee will be repaid pursuant to authorization by the Participant of equal payroll deductions over the repayment period sufficient to amortize fully the loan within the repayment period; provided, however, the Administrator may waive the requirement of equal payroll deductions if the payroll through which the Participant is paid cannot accommodate such deductions. The loan shall be repayable in whole or in part at any time without penalty by payment in accordance with procedures established by the Administrator.

(6) Notwithstanding any other provision of this Plan to the contrary, loan repayments will be suspended under the Plan as permitted under Code Section 414(u)(4) (for Participants on a leave of absence for "qualified military service" (as defined in Section 2.4)).

ARTICLE VI. Vesting and Forfeitures

6.1 Participants' Accounts Vested.

(1) Participants will have an immediate fully vested right to the portion of their Account attributable to Pre-Tax Contributions, After-Tax Contributions, Rollover Contributions, Roth Contributions, Roth In-Plan Conversions, Safe Harbor Employer Matching Contributions and Prior Plan After-Tax Contributions.

(2) The vested percentage of a Participant's Account attributable to Non-Elective Employer Contributions and Pre-2016 Employer Matching Contributions shall be determined as follows:

Years of Vesting Service:	Vested Percentage is:
Less than 3	0%
3 or More	100%

(3) The vested percentage of a Participant's Account attributable to Prior Plan Employer Contributions shall be determined as follows:

Years of Vesting Service:	Vested Percentage is:
Less than 1	0%
1 or More	100%

(4) Notwithstanding the vesting schedules specified above, a Participant's right to the portion of his or her Account attributable to Pre-2016 Employer Matching Contributions, Non-Elective Employer Contributions and Prior Plan Employer Contributions shall be fully vested (a) upon death or Disability, provided such Participant is an Active Participant or Participant with Account in Suspense on the date of death or Disability, (b) upon attainment of age 65 as an Active Participant or Participant with Account in Suspense, and (c) upon a Change in Control, provided the Participant is a non-officer, active, exempt, full-time, non-store employee in grade 7 or higher who is separated from service from the Company and its direct subsidiaries, or their successors, within the 24-month period following the effective date of such Change in Control, and (d) for an Employee of a Participating Employer or Affiliated Company immediately prior to the sale of any of the five stores that were caused to be sold by the Company or its affiliate as a

result of the Decision and Order enacted by the United States Federal Trade Commission in relation to the Company's 2018 acquisition of Express Mart convenience stores in New York, and who then accepted an offer of employment from the store's purchaser.

(5) If a Participant forfeits all or a portion of the balance in his or her unvested Account on account of a distribution or deemed distribution of the vested portion of his or her Account pursuant to Section 6.2, and is subsequently rehired by a Controlled Group Member, the amount forfeited shall be restored to the Participant's Account by means of a special Employer contribution if, not later than the earlier of the end of the five-year period beginning with (i) the first date on which the Participant is subsequently rehired by a Controlled Group Member; or (ii) the date of the distribution of the vested portion of the Participant's Account, the Participant repays to the Plan an amount equal to such distribution. Such restoration shall be made as of the date of the Participant's repayment (or deemed repayment) described in this Subsection. Any amounts restored to a Participant's Account pursuant to this Subsection shall be 100% vested and nonforfeitable upon such restoration.

(6) Service with Controlled Group Members shall be recognized for purposes of computing Years of Vesting Service under the Plan provided that such service is attributable to time while the employer(s) was a Controlled Group Member. If a former Employee is subsequently reemployed by an Employer, all prior service which has been credited for vesting purposes hereunder shall be reinstated.

Participants who were employed by a company at the time such company was acquired by the Company may, with the approval of the Company or any committee to which the Company has specifically delegated sufficient authority, be entitled to additional vesting service based on employment with the acquired company, as outlined in Addendum B.

(7) In the event of any transfer of assets and liabilities (including a consolidation or merger) from another plan to this Plan (other than a Rollover Contribution or individual Direct Plan Transfer Contributions), any person who becomes a Participant after the transfer date and who was credited with vesting service credit under the transferor plan based on the Participant's prior employment shall receive at least the same vesting service credit determined under that transferor plan as of the date of that transfer

6.2 If a Participant's employment is terminated with all Controlled Group Members, Non-Elective Employer Contributions, Prior Plan Employer Contributions and all other unvested amounts held in the Participant's Account in which he or she is not vested shall be forfeited upon the earlier of (i) the distribution of the Participant's vested Account or (ii) five years after the date when a Participant is no longer an Active Participant or a Participant with Account(s) in Suspense. All forfeitures may be a source of reducing Employer contributions to the Plan for the Plan Year, or may be used to pay reasonable administrative expenses of the Plan, as directed by the Plan Administrator.

ARTICLE VII . In-Service Withdrawals

7.1 In-Service Withdrawals. Payments may be made from the Plan to an Active Participant or Participant with Account(s) in Suspense as an "In-Service Withdrawal" under the terms of this Section 7.1.

(1) Active Participants or Participants with Account(s) in Suspense are eligible to withdraw a portion of their After-Tax Contributions Account, Rollover Contributions Account, Roth Rollover Contributions Account or vested Pre-2016 Employer Matching Contributions

Account without losing such other rights as they may have in the balance of their Accounts, subject to the provisions outlined below.

(2) Active Participants or Participants with Account(s) in Suspense who have attained age 59-1/2 are also eligible to withdraw a portion of their Pre-Tax Basic Contributions Account, Roth Basic Contributions Account, Pre-Tax Catch-Up Contributions Account, Roth Catch-Up Contributions Account, Roth In-Plan Conversion Account and Safe Harbor Matching Contributions Account without losing such other rights as they may have in the balance of their Accounts, subject to the provisions outlined below.

(3) In-Service Withdrawals are limited to a maximum of four in a Plan Year. No In-Service Withdrawals of less than $100 will be permitted.

7.2 Account and Investment Withdrawal Order for Partial In-Service Withdrawals.

(1) Unless elected otherwise by the Participant, the order in which funds from the Plan are withdrawn is as follows, with the type of Account taking precedence over the type of Investment.

Account:

(a) Pre-1987 tax-paid employee contributions in the After-Tax Contributions Account;

(b) All remaining funds in the After-Tax Account;

(c) Rollover Contributions Account – After-Tax;

(d) Rollover Contributions Account – Pre-Tax;

(e) Pre 2016 Employer Matching Contributions;

(f) Safe Harbor Employer Matching Contribution Account (to the extent permitted by the Plan and by law);

(g) Pre-Tax Contribution Account (to the extent permitted by the Plan and by law);

(h) Pre-Tax Catch-Up Contribution Account (to the extent permitted by the Plan and by law);

(i) Roth Basic Contribution Account;

(j) Roth Catch-Up Contributions Account;

(k) Roth In-Plan Conversion Account;

(l) Roth Rollover Contributions Account.

Investment:

(a) Stable Value Funds;

(b) Mutual Funds;

(c) Marathon Petroleum Corporation Common Stock.

The Participant may elect a different order from the preceding order provided that all pre-1987 After-Tax Contributions must be distributed before any funds from the Pre-2016 Employer Matching Contributions Account, Safe Harbor Employer Matching Contributions Account, Non-Elective Employer Contributions Account, and the Rollover Contributions Account may be withdrawn.

7.3 In-Service Withdrawal of Entire Distributable Vested Plan Balance. Subject to the conditions of this Section 7.3, Active Participants or Participants with Account(s) in Suspense may request an In-Service Withdrawal of their entire distributable vested Plan balance. The amount available for withdrawal depends on the Participant's age, disability status, vested status, and employment date as follows:

(1) Fully Vested Participants. Fully vested Participants who have not attained age 59-1/2 may receive the value of their After-Tax Contributions Account, Rollover Contributions Account, Roth Rollover Contributions Account, Prior Plan After-Tax Contributions Account and Pre-2016 Employer Matching Contributions Account. Fully vested Participants who have attained age 59-1/2 or who are Disabled may receive the value of such Accounts plus the value of their Pre-Tax Contributions Account, Pre-Tax Catch-Up Contributions Account, Safe Harbor Employer Matching Contributions Account, Prior Plan Employer Contributions Account, Roth Basic Contributions Account, and Roth Catch-Up Contributions Account, as well as the value of their Roth In-Plan Conversion Account.

(2) Non-Fully Vested Participants. Non-fully vested Participants who have not attained age 59-1/2 and who are not Disabled may receive the value of their After-Tax Contributions Account, Rollover Contributions Account, and any vested portion of their Pre-2016 Employer Matching Contributions Account, excluding their Roth Rollover Contributions Account. Non-fully vested Participants who have attained age 59-1/2 or who are Disabled may also receive the value of their Pre-Tax Contributions Account, Pre-Tax Catch-Up Contributions Account, Safe Harbor Employer Matching Contributions Account, Roth Rollover Contributions Account, Roth Basic Contributions Account, Roth In-Plan Conversation Account, and Roth Catch-Up Contributions Account.

7.4 Distributions due to Military Service. A Participant shall be deemed as severed from employment for purposes of Code Section 401(k)(2)(B)(i)(I) during any period when the Participant is performing service in the uniformed service while on active duty for a period of more than 30 days, as described in Code Section 3401(h)(2)(A). However, a Participant who obtains a distribution by reason of service in the uniformed service for more than 30 days may not make any elective deferrals or employee contributions to the Plan during the six-month period beginning on the date of such distribution.

Notwithstanding anything to the contrary herein, a Participant who is a member of a reserve component (as defined in Section 101 of title 37), and who was ordered or called to active duty for a period in excess of 179 days or for an indefinite period may request, during the period beginning on the date of the order or call to duty and ending at the close of the active duty period, a distribution of all or part of his or her elective deferrals. The distribution shall be paid to the Participant as promptly as practicable after the Administrator (or its delegate) receives the Participant's request.

7.5 Hardship Withdrawals. A Participant who has exhausted all other available withdrawal options under the terms of this Plan or any other plan sponsored by a member of the Controlled Group, may apply for a hardship withdrawal. Except to the extent otherwise provided for by the Plan Administrator, the Participant may apply for a hardship withdrawal through Fidelity's

Participant Directed/E-Certified Hardship Withdrawal service, which service will meet applicable substantiation and certification requirements. At the Plan Administrator's discretion, the Participant may be requested to provide specific supporting documentation of their financial hardship.

For purposes of this Section 7.5, a withdrawal is made on account of hardship if made on account of an immediate and heavy financial need of the Participant where the Participant lacks other available resources, and the Participant has obtained all distributions, other than the hardship withdrawal, currently available under all plans maintained by the Company or any member of its Controlled Group. The Plan Administrator or its delegate shall direct the Plan's trustee with respect to hardship withdrawals and those withdrawals will be based on the following rules.

The following are the only financial needs considered immediate and heavy:

(i) Expenses for (or necessary to obtain) medical care that would be deductible under Code Section 213(d) (determined without regard to whether the expenses exceed 7.5% of adjusted gross income);

(ii) Costs directly related to the purchase of a principal residence for the Participant (excluding mortgage payments);

(iii) Payment of tuition related educational fees, and room and board expenses, for up to the next 12 months of post-secondary education for the Participant, or their spouse, children or dependents (as defined in Code Section 152, without regard to Code Section 152(b)(1), (b)(2), and (d)(1)(B));

(iv) Payments necessary to prevent the eviction of the Participant from their principal residence or foreclosure on the mortgage on that residence;

(v) Payments for burial or funeral expenses for the Participant's deceased parent, spouse, children or dependents (as defined in Code Section 152, without regard to Code Section 152(b)(1), (b)(2), and (d)(1)(B)); or

(vi) Expenses for the repair of damage to the Participant's principal residence that would qualify for the casualty deduction under Code Section 165 (determined without regard to whether the loss exceeds 10% of adjusted gross income).

Subject to a maximum of four withdrawals per year, amounts available for withdrawal are from the Participant's elective deferrals, rollovers and after-tax contributions and earnings thereon, subject to a $500 minimum per withdrawal. A withdrawal may not exceed the amount determined to be a financial hardship for one of the reasons listed above and may include amounts to pay any federal, state, or local income taxes or penalties reasonably anticipated to result from the distribution.

Following a hardship withdrawal, the Participant may continue their contributions to the Plan and will continue to receive Company matching contributions as provided by the Plan.

ARTICLE VIII . Withdrawals After Termination of Employment

8.1 General. Any nonvested Employer Matching Contributions held in the Employer Matching Contributions Account, any Non-Elective Employer Contributions held in the Non-Elective Employer Contributions Account, and any Prior Plan Employer Contributions held in the Prior Plan Employer Contributions Account are forfeited on the earlier of a complete withdrawal or five years after the date when a Participant is no longer an Active Participant or a Participant with Account(s) in Suspense. Vested Participants are entitled to receive their entire vested balance in all accounts when the Participant is no longer an Active Participant or a Participant with Account(s) in Suspense.

8.2 Timing of Commencement of Benefits.

(1) The following Participants may elect to defer the commencement of benefits until no later than the April 1 immediately following the calendar year in which such Participants attain age 70½:

(a) Retired Participants with vested Plan Accounts in excess of $5,000;

(b) Participants with Account(s) in Suspense; and

(c) Non-employee Participants (other than Non-employee Participants with a vested Plan balance of $5,000 or less, Beneficiary Participants, and Spouse Beneficiary Participants with a vested Plan balance in excess of $5,000).

(2) Spouse Beneficiary Participants with a Plan balance in excess of $5,000 may maintain an open Plan Account(s) for their lifetime, subject to the minimum distribution requirements of Code Section 401(a)(9). Spouse Beneficiary Participants with a Plan balance of $5,000 or less must commence their final settlement no later than 60 days after the close of the Plan Year during which they become Spouse Beneficiary Participants. Beneficiary Participants may maintain an open Account(s) until no later than the fifth anniversary of the date of the Participant's death. All other Non-employee Participants (including Beneficiary Participants) with a vested Plan balance of $5,000 or less must commence their final settlement no later than 60 days from the date of becoming such Participants unless, in the case of an Alternate Payee Participants, the distribution of any part of such Plan balance is then not permitted under Code Section 401(k). The Participant or, if applicable, the Beneficiary or Beneficiaries, however, may request earlier payment of benefits, in which case payment shall commence as soon as practicable after the Participant or, if applicable, the Beneficiary or Beneficiaries has filed a written notice of such election with the Administrator.

8.3 Withdrawal Rights after Termination of Employment. The following are the distribution rights after termination of employment with all Controlled Group Members:

(1) Retired Participants, Spouse Beneficiary Participants, or Beneficiary Participants may withdraw during any year all or any portion of the remaining balance in their Account(s), provided that no withdrawal of less than $500 may be made unless it constitutes the entire remaining balance. Such withdrawals, however, are limited to a maximum of four in a Plan Year.

(2) Except as provided in Section 8.3(1), Non-employee Participants may only withdraw their entire Plan Account(s); provided, however, that Non-employee Participants may also make a one-time withdrawal to pay off any outstanding Plan loan(s) without triggering the requirement to make a withdrawal of their entire Plan balance.

8.4 Reinstatements.

(1) Except as otherwise provided in this Plan, any amounts held in the Employer Matching Contributions Account, Non-Elective Employer Contributions Account and Prior Plan Employer Contributions Account forfeited by a Participant's termination of employment prior to vesting will be used to reduce the applicable Employer's subsequent Contributions to the Plan; provided, however, that such forfeited Contributions shall not be used to fund Contributions to

the Safe Harbor Employer Matching Contributions Account. The amounts forfeited held in the Employer Matching Contributions Account, Non-Elective Employer Contributions Account and Prior Plan Employer Contributions Account, however, shall be reinstated if the Participant is rehired by an Employer, and, within five years after the date of rehire, repays an amount equal to the lesser of: (1) the Employer Matching Contributions, Non-Elective Employer Contributions and Prior Plan Employer Contributions, and earnings thereon as of the date of forfeiture, for the last 24 months in which they contributed to the Plan, or (2) the amount of the Plan distribution received upon termination of employment. The maximum an Active Participant may repay is the Participant's After-Tax Contributions, and, if applicable, Pre-Tax Contributions and Roth Deferral Contributions, the total of which must not exceed the amount of the previous total distribution. Reinstated contributions by an eligible rehired employee are deposited into the After-Tax Contributions Account (if attributable to pre-1987 after-tax employee contributions in the After-Tax Contributions Account, such contributions are credited to the pre-1987 subaccount). In any case, the rehired Participant shall have reinstated toward vesting the total number of months for which contributions were matched prior to the Participant's complete distribution. The reinstatement contribution shall not be adjusted for earnings or losses during the forfeiture period.

(2) Notwithstanding the foregoing, a Deferred Participant who is reemployed by a Controlled Group Member will have nonvested forfeited Employer Matching Contributions, Non-Elective Employer Contributions and Prior Plan Employer Contributions automatically reinstated into the Employer Matching Contributions Account, Non-Elective Employer Contributions Account or Prior Plan Employer Contributions Account, as the case may be, as of the date of reemployment provided that such reemployment date occurs within five years of the date of such Participant's last termination of employment from a Controlled Group Member. All automatic reinstatements will be invested in accordance with the Participant's direction. A Deferred Participant who is reemployed by an Employer or any Controlled Group Member will have reinstated toward vesting the total number of months recognized for vesting under Article VI immediately prior to such Participant's last termination of employment from a Controlled Group Member.

8.5 Settlement Options.

(1) Unless a Participant elects otherwise and except as provided below, distribution of his or her Account(s) will be made in a single sum payment, in either cash or in securities.

(2) A Participant's elective deferrals and earnings attributable to these contributions shall be distributed on account of the Participant's severance from employment, regardless of when the severance from employment occurred. However, such a distribution shall be subject to the other provisions of the Plan regarding distributions, other than provisions that require a severance from employment before such amounts may be distributed.

(3) Notwithstanding any provision of the Plan to the contrary that would otherwise limit a distributee's election under this Article, a distributee may elect, at the time and in the manner prescribed by the Administrator to have any portion of an eligible rollover distribution paid directly to an eligible retirement plan specified by the distributee in a direct rollover. For purposes of this Section 8.5(3), the following definitions shall apply:

(a) Eligible rollover distribution. Any distribution of all or any portion of the balance to the credit of the distributee from the Plan, except (a) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the distributee or the joint lives (or joint life expectancies) of the distributee and the distributee's designated beneficiary, or for a specified period of ten years or more, (b) any distribution to the extent the distribution is required under Code Section 401(a)(9), (c) the portion of any distribution that is not includible in gross income (other than a distribution from a designated Roth account, as defined in Code Section 402A), and (d) any distribution which is made upon the hardship of the distributee. For purposes of this Section 8.5, a portion of a distribution shall not fail to be an Eligible Rollover Distribution merely because the portion consists of after-tax contributions which are not includible in gross income, including any amounts distributed from a designated Roth account (as defined in Code Section 402A). However, such portion may be transferred only to an individual retirement account or annuity described in Code Section 408(a) or (b), or to a qualified trust (within the meaning of Code Section 402(c)) or an annuity contract described in Code Section 403(b) that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of such distribution which is includible in gross income and the portion of such distribution which is not so includible.

(b) Eligible retirement plan. An eligible retirement plan shall means an individual retirement account or annuity described in Code Section 408, a defined contribution plan that meets the requirements of Code Section 401(a) and accepts rollovers, an annuity plan described in Code Section 403(a), an annuity contract described in Code Section 403(b), an eligible plan under Code Section 457(b) which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this Plan, a Roth IRA described in Code Section 408A(b), or any other type of plan that is included within the definition of “eligible retirement plan” under Code Section 401(a)(31)(E). The preceding definition of “eligible retirement plan” shall apply in the case of a distribution to a spouse after a Participant’s death, or to a spouse or former spouse who is an alternate payee. However, in the case of a distributee other than the Participant, spouse or former spouse who is an alternate payee, the term “eligible retirement plan” shall mean only an individual retirement account or annuity described in Code Section 408.

(c) Distributee. A distributee includes an Employee or former Employee. In addition, the Employee’s or former Employee’s surviving Spouse and the Employee’s or former Employee’s Spouse or former Spouse who is the Alternate Payee under a QDRO, are distributees with regard to the interest of the Spouse or former Spouse. A distributee also includes a non-Spouse Beneficiary who is a designated beneficiary under the Plan.

(d) Direct rollover. A direct rollover is a payment by the Plan to the eligible retirement plan specified by the distributee.

(4) Notwithstanding the foregoing Subsections of this Section 8.5, a direct rollover of a distribution from the Roth Contributions Account or the Roth In-Plan Conversion Account will only be made to another designated Roth account (as defined in Code Section 402A) under an applicable retirement plan described in Code Section 402A(e)(1) or to a Roth IRA described in Code Section 408A, and only to the extent the rollover is permitted under the rules of Code Section 402(c). The provisions of Subsection (3) of this Section 8.5 that allow a Participant to elect a direct rollover of only a portion of an eligible rollover distribution shall be applied by treating any amount distributed from the Participant’s Roth Contributions Account or their Roth In-Plan Conversion Account as a separate distribution from any amount distributed from the rest of the Participant’s Account, even if the amounts are distributed at the same time.

8.6 <u>Systematic Withdrawal Plan (Installments) Options</u>.

(1) A Deferred Participant, Retired Participant, Beneficiary Participant or Spouse Beneficiary Participant (each an “Electing Participant”) may elect to have the distribution of their

account made under a systematic withdrawal plan (installments) according to terms and conditions as may from time to time be approved for use and offered under the Plan, which terms and conditions may include: (a) the installment period, e.g., annual, semi-annual, monthly, or other installment period; (b) the amount of each installment by specified percentage or according to life expectancy; and (c) requirements as to the payments being made in cash and/or in-kind as to be paid in cash and/or securities. After distribution commences under an elected systematic withdrawal plan, the Electing Participant may elect to discontinue receiving further installments at any time pursuant to terms and conditions for such an election as may from time to time be approved for use and offered under the Plan. Additionally, the Electing Participant may be permitted to take an additional withdrawal while the systematic withdrawal option is in effect, pursuant to terms and conditions for such additional withdrawal as may from time to time be approved for use and offered under the Plan. If the Electing Participant dies while a systematic withdrawal plan is in effect, the installments will cease and any further benefits with respect to the Electing Participant's account will be payable pursuant to the provisions of this Article VIII. Any systematic withdrawal plan is subject to the Plan's minimum required distribution provisions.

(2) Any new installment elections or changes to current elections result in proceeds being redeemed in the order described in Section 7.2, with the type of Account taking precedence over the type of Investment. For minimum required distribution withdrawals for Retired Participants, these required withdrawals will also be distributed in the order defined by the Plan default.

(3) Notwithstanding anything in this Plan to the contrary, a WilcoHess Participant who was receiving annuity or installment distributions under the WilcoHess Plan (that is, payments have commenced to the WilcoHess Participant) as of the Plan Merger Date shall, in accordance with the distribution provisions under the WilcoHess Plan, maintain the right to continue such annuity or installment payments in accordance with the WilcoHess Participant's distribution election under the WilcoHess Plan; provided, however, that such WilcoHess Participants may also change such distribution election if such change is made in accordance with the terms of this Plan.

8.7 Distributions on Account of Death. Subject to Section 8.9, a Beneficiary, in the event of the Participant's death, may receive funds from the Plan in cash and/or securities commencing pursuant to the terms of Article VIII. If payment of the Participant's Account(s) pursuant to Article VIII of the Plan has commenced before the Participant's death, the remaining balance of the Participant's benefit will be distributed to the designated Beneficiary or Beneficiaries at least as rapidly as required under Code Section 401(a)(9) and the regulations thereunder.

8.8 Distributions Pursuant to a Qualified Domestic Relations Order. Alternate Payees shall be eligible to receive distribution of their Accounts at any time after the "earliest retirement age" (as defined in Code Section 414(p)(4)(B)) of the Participant from whose Account the Alternate Payee's Account was created or, if the QDRO applicable to the Alternate Payee so provides, at any time after the date the Alternate Payee's Account is established pursuant to Section 5.2. If a QDRO orders the Administrator to distribute all or any portion of the Account of the Alternate Payee to such Alternate Payee, the Administrator as soon as practicable shall make such distribution of such interest in the Account to such Alternate Payee. If a withdrawal of the Alternate Payee Participant's account balance has not been made earlier, then Alternate Payee Participants will receive an automatic distribution of the account balance from the Plan no later than 180 days after the account has been established. An Alternate Payee Participant with a Plan balance of $5,000 or less may maintain an open Account until no later than 60 days after becoming an Alternate Payee Participant or as soon as administratively feasible thereafter when a distribution may be processed.

8.9 Provision Pursuant to Code Section 401(a)(9). The Plan will apply the minimum distribution requirements of Code Section 401(a)(9), as described in Addendum A.

8.10 Automatic Rollovers. The Plan balance of Participants, other than Active Participants and Participants with Account(s) in Suspense, will be distributed to such Participants in the form of a lump sum in cash without their consent if their Plan balance is less than or equal to $5,000, determined immediately after the forfeiture of any nonvested Employer Matching Contributions, Non-Elective Employer Contributions and Prior Plan Employer Contributions. Account balances attributable to rollover contributions (and earnings allocable thereto), are included in determining a participant's eligibility to receive the small cash-out under this Section 8.10. In the event of a small cash-out under this Section 8.10 in which the Plan balance is greater than $1,000, if the Participant does not elect to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in accordance with Code Section 401(a)(31)(B), then the Administrator will pay the distribution in a direct rollover to an individual retirement account designated by the Administrator.

ARTICLE IX. Administration of the Plan and Trust

9.1 Plan Administrator. The Plan Administrator (also known as the Administrator under this Plan) shall be as defined and designated under the Primary Plan.

9.2 Duties of Plan Administrator. The duties of the Plan Administrator shall be as provided under the Primary Plan.

9.3 Delegation of Duties. Delegation of duties shall be as provided under the Primary Plan.

9.4 Investment Committee. Investment Committee matters shall be as provided under the Primary Plan.

9.5 Records; Statements of Accounts. Records, statements of accounts and related matters shall be as provided under the Primary Plan.

9.6 Costs, Expenses and Fees. Costs, expenses, and fees and related matters shall be as provided under the Primary Plan.

9.7 Uniformity. Any discretionary acts taken under this Plan by the Administrator, the Company, or the Trustee and related matters shall be as provided under the Primary Plan.

9.8 The Trust Fund. The Trust Fund shall be held by the Trustee for the exclusive benefit of the Participants and their Beneficiaries, and the Trust Fund shall be invested by the Trustee upon such terms and in such property as is provided in the Plan and in the Trust Agreement. The Trustee will, from time to time, make payments, distributions and deliveries from the Trust Fund as provided in the Plan. The Trustee in its relation to the Plan shall be entitled to all of the rights, privileges, immunities and benefits conferred upon it and shall be subject to all of the duties imposed upon it under the Trust Agreement. The Trust Agreement is hereby incorporated in the Plan by reference, and each Employer, by adopting the Plan, authorizes the Company to execute the Trust Agreement (including any amendment or Plan thereof) in its behalf with respect to the Plan.

9.9 Payment of Benefits. All payments of benefits provided for by the Plan (less any deductions provided for by the Plan) shall be made solely out of the Trust Fund in accordance with instructions given to the Trustee by the Administrator pursuant to the terms of the Plan, and no Employer shall otherwise be liable for any benefits payable under the Plan.

9.10 Restriction on Venue. Venue and related provisions shall be as provided in the Primary Plan.

9.11 Powers of Attorney and Similar Matters. For all purposes relating to the administration of any Plan or legal requirement with respect to any Participant, beneficiary, alternate payee or other individual having or claiming a Plan benefit or other interest under the Plan, including, but not limited to matters relating to distributions to minors and incompetent individuals, the Plan Administrator may in its discretion conclusively rely on an original or copy of any power of attorney, order of legal guardianship or conservatorship, or document of similar effect, granting a person the authority and right to act on behalf of any Participant, beneficiary, alternate payee or other person having or claim a benefit or other interest under the Plan.

ARTICLE X . Claims Procedures

The claims procedures for the Plan shall be as provided in the Primary Plan.

ARTICLE XI. Fiduciary Responsibility

Fiduciary responsibility and related matters shall be as provided under the Primary Plan.

ARTICLE XII . Code Section 415 and 416 Provisions

12.1 Provision Pursuant to Code Section 415(c).

(1) Notwithstanding any other provision of this Plan (except to the extent permitted under Section 3.3 and Code Section 414(v)), the maximum annual addition (as defined in Subsection (2) of this Section 12.1) to a Participant's Account (and to any account for the Participant under the Plan or any other defined contribution plan, whether or not terminated, maintained by any Controlled Group Member) shall in no event exceed the lesser of (a) 100% of the participant's compensation (as defined in Subsection (4) of this Section 12.1), or (b) $57,000 (as such amount may be adjusted by the Secretary of the Treasury pursuant to Code Section 415(d)), except that this compensation limitation shall not apply to: (i) any contribution for medical benefits (within the meaning of Code Section 419A(f)(2)) after severance from employment which is otherwise treated as an annual addition, or (ii) any amount otherwise treated as an annual addition under Code Section 415(l)(1).

(2) For the purpose of this Section 12.1, the term "annual addition" means the sum for any Plan Year (which shall be the limitation year) of:

(a) All contributions (excluding Catch-Up Contributions and Rollover Contributions) made by the Controlled Group which are allocated to the Participant's account pursuant to a defined contribution plan maintained by a Controlled Group Member;

(b) The amount of employee contributions made by the Participant (excluding Catch-Up Contributions and Rollover Contributions);

(c) All forfeitures allocated to the Participant's account pursuant to a defined contribution plan maintained by a Controlled Group Member; and

(d) Amounts described in Code Sections 415(l)(1) and 419A(d)(2).

(3) For purposes of this Section 12.1, the definition of "Controlled Group" set forth in Subsection 1.1(17) shall be modified as provided by Section 415(h).

(4) For purposes of the limitation in Section 12.1(1), a Participant's compensation shall include the Participant's wages, salaries, fees for professional service, and other amounts received for personal services actually rendered in the course of employment with any Controlled Group Member (including, but not limited to, geographic pay differentials, comp time, location premiums, commissions paid salesmen, compensation for services on the basis of a percentage of profits, commissions on insurance premiums, tips, and bonuses) and elective deferrals under Code Sections 125, 132(f)(4), 402(e)(3), 402(h)(1)(B), 402(k), and 457(b). A Participant's compensation shall also include amounts described in Code Section 104(a)(3), 105(a), or 105(h), but only to the extent includable in the Participant's gross income; nondeductible reimbursed moving expenses; amounts includible in the Participant's gross income upon grant of a nonstatutory stock option, or an election under Code Section 83(b); and amounts includible in the Participant's gross income as constructively received under the rules of Code Section 409A or 457(f)(1)(A). However, a Participant's compensation shall exclude such items as Employer contributions to a plan of deferred compensation, income realized from the exercise of a non-qualified stock option, income realized from the disposition of stock acquired under an incentive stock option, and reimbursed deductible moving expenses. Compensation, for the purposes of the foregoing limitation, shall also include: amounts paid or made available after a Participant's severance from service, required to be included under Treasury Regulations Sections 1.415(c)-2(e)(3)(i) and 1.415(c)-2(e)(3)(ii); and payments of back pay within the meaning of Treasury Regulations Section 1.415(c)-2(g)(8). This definition of compensation is intended to comply with Treasury Regulations Section 1.415(c)-2. The term "compensation" shall also include any differential wage payments (within the meaning of Code Section 3401(h)(2)) made to a participant by the Controlled Group.

12.2 Provision Pursuant to Code Section 416.

(1) Definitions. For the purposes of this Section, the following terms, when used with initial capital letters shall have the following respective meanings:

(a) Aggregation Group: Permissive Aggregation Group or Required Aggregation Group, as the context shall require.

(b) Compensation: Compensation as defined in Section 12.1(4).

(c) Defined Benefit Plan: A qualified plan which is not a defined contribution plan.

(d) Defined Contribution Plan: A qualified plan which provides for an individual account for each participant, and for benefits based solely on the amount contributed to the participant's account, and any income, expenses, gains and losses, and any forfeitures of accounts of other participants which may be allocated to the participant's account.

(e) Determination Date: For any Plan Year, the last day of the immediately preceding Plan Year, except that in the case of the first Plan Year of a Plan, the Determination Date shall be the last day of such first Plan Year.

(f) Former Key Employee: A Non-Key Employee with respect to a Plan Year who was a Key Employee in a prior Plan Year. Such term shall also include the Participant's Beneficiary in the event of the Participant's death.

(g) Key Employee: An Employee or former Employee who at any time during the Plan Year is (i) an officer of an Employer (as the term "officer" is limited in Code Section 416(i)(1)(A)) having an annual Compensation greater than $215,000 (as adjusted under Code Section 416(i)(1)), (ii) a 5% owner (as such term is defined in Code Section 416(i)(1)(B)(i)) of an Employer, or (iii) a 1% owner (as such term is defined in Code Section 416(i)(1)(B)(ii)) of an Employer having an annual Compensation of more than $150,000. For purposes of this paragraph (g), the term "Compensation" has the meaning given such term by Code Section 415(c)(3). The term "Key Employee" shall also include such Employee's Beneficiary in the event of the Participant's death. The determination of who is a Key Employee shall be made in accordance with Code Section 416(i)(1) and the applicable Treasury Regulations and other guidance of general applicability issued thereunder.

(h) Non-Key Employee: An Employee or former Employee who is not a Key Employee. Such term shall also include the Participant's Beneficiary in the event of the Participant's death.

(i) Permissive Aggregation Group: The group of qualified plans of the Employer consisting of:

(i) The plans in the Required Aggregation Group; plus

(ii) One or more plans designated from time to time by the Administrator that are not part of the Required Aggregation Group but that satisfy the requirements of Code Sections 401(a)(4) and 410 when considered with the Required Aggregation Group.

(j) Required Aggregation Group: The group of qualified plans of the Employer consisting of,

(i) Each plan in which a Key Employee participates; plus

(ii) Each plan which enables a plan in which a Key Employee participates to meet the requirements of Code Sections 401(a)(4) or 410.

(k) Top-Heavy Account Balance: A Participant's (including a Participant who has received a total distribution from this Plan) or a Beneficiary's aggregate balance standing to his or her Account as of the Valuation Date coinciding with or immediately preceding the Determination Date; provided, however, that such balance shall include the aggregate distributions made to such Participant or Beneficiary during the 1-year period ending on the Determination Date (including distributions under a terminated plan which if it had not been terminated would have been included in a Required Aggregation Group) unless such aggregate distributions were made for a reason other than severance from employment, death, or disability in which case the preceding provisions of this paragraph (k) shall be applied by substituting a 5-year period for the 1-year period and; provided, further, that if an Employee or former Employee has not performed services for any Employer maintaining the Plan at any time during the 1-year period ending on the Determination Date, such Account (and/or the Account of the Participant's Beneficiary) shall not be taken into account.

(l) Top-Heavy Group: An Aggregation Group if, as of a Determination Date, the aggregate present value of accrued benefits for Key Employees in all plans in the Aggregation Group (whether Defined Benefit Plans or Defined Contribution Plans) is more than 60% of the aggregate present value of accrued benefits for all employees in such plans.

(m) Top-Heavy Plan: See Section 12.2(2).

(2) Determination of Top-Heavy Status.

(a) Except as provided by paragraph (b) of this Subsection, the Plan shall be a Top-Heavy Plan if, as of a Determination Date:

(i) The aggregate of Top-Heavy Account Balances for Key Employees is more than 60% of the aggregate of all Top-Heavy Account Balances, excluding for this purpose the aggregate Top-Heavy Account Balances of Former Key Employees; or

(ii) If the Plan is included in a Required Aggregation Group which is a Top-Heavy Group.

(b) If the Plan is included in a Permissive Aggregation Group which is not a Top-Heavy Group, the Plan shall not be a Top-Heavy Plan notwithstanding the fact that the Plan would otherwise be a Top-Heavy Plan under paragraph (a) of this Subsection.

(3) Top-Heavy Plan Requirements. Notwithstanding any other provisions of this Plan to the contrary, if the Plan is a Top-Heavy Plan for any Plan Year, the Plan shall then satisfy the following requirements for such Plan Year:

(a) The minimum contribution requirement as set forth in Subsection (4).

(b) The adjustment to maximum benefits and allocations as set forth in Subsection (5).

(4) Minimum Contribution Requirement.

(a) Each Non-Key Employee who is eligible to share in any Employer Matching Contribution for such Plan Year shall be entitled to receive an allocation of such Contribution which is at least equal to 3% of the Participant's Compensation for such Plan Year.

(b) The 3% minimum contribution requirement under paragraph (a) above shall be increased to 4% in the circumstances set forth in paragraph (a) of Subsection (5) of this Section.

(c) The percentage minimum contribution requirement set forth in paragraphs (a) and (b) above with respect to a Plan Year shall not exceed the percentage at which Employer Matching Contributions are made (or required to be made) under the Plan for such Plan Year for the Key Employee for whom such percentage is the highest for such Year. The determination referred to in the immediately preceding sentence shall be determined for each Key Employee by dividing the Employer Matching Contribution allocated to such Key Employee in that Plan Year by such Key Employee's Compensation for such Plan Year. For purposes of the percentage minimum contribution requirement set forth in paragraphs (a) and (b) above, Employer Matching Contributions shall include all Employer Matching Contributions and those Deferred Salary Contributions and/or Roth Contributions made for Key Employees; provided, however, that Employer Matching Contributions that are taken into account in satisfying the percentage minimum contribution requirement set forth in paragraphs (a) and (b) above shall be treated as matching contributions for purposes of the actual contribution percentage test and other requirements of Code Section 401(m).

(d) The percentage minimum contribution requirement set forth in paragraphs (a) and (b) of this Subsection may also be reduced in accordance with paragraph (b) of Subsection (6) of this Section.

(e) For the purpose of paragraph (c) of this Subsection, contributions taken into account shall include like contributions under all other Defined Contribution Plans in the Required Aggregation Group, excluding any such plan in the Required Aggregation Group if that plan enables a Defined Benefit Plan in such Required Aggregation Group to meet the requirements of Code Sections 401(a)(4) or 410.

(5) Adjustment to Maximum Benefits and Allocations. If the Plan is a Top-Heavy Plan for any Plan Year, and if the Employer maintains a Defined Benefit Plan which could or does provide benefits to Participants in this Plan, then Subsection (4)(b) shall apply so that the percentage minimum contribution requirement in Subsection(4)(b) is 4%.

(6) Coordination with Other Plans.

(a) In applying this Section 12.2, an Employer and all Controlled Group Members shall be treated as a single employer, and the qualified plans maintained by such single employer shall be taken into account.

(b) If a Non-Key Employee participates in this Plan and a Defined Benefit Plan that is part of the Required or Permissive Aggregation Group that is determined to be a Top-Heavy Plan, the defined benefit and defined contribution minimums of Code Section 416(c) will be satisfied by providing each such Employee with the defined benefit minimum benefit provided in such Defined Benefit Plan (and the minimum contributions required for a Non-Key Employee in this Plan under Subsection (4) will be eliminated); provided, that if the other Defined Benefit Plan is the Speedway Retirement Plan, the minimum benefit under Section A of Article V of Addendum A to the Speedway Retirement Plan (or the successor provision to same) shall be provided to such Employees (and the minimum contributions required for a Non-Key Employee in this Plan under Subsection (4) will be eliminated)

(7) Construction: The term “present value of accrued benefits” as used in this Section 12.2 shall in all appropriate cases include account balances of affected Employees.

(8) Accrued Benefit: Solely for the purpose of determining if the Plan, or any other plan included in a required aggregation group of which this Plan is a part, is top-heavy (within the meaning of Code Section 416(g)) the accrued benefit of an Employee other than a key employee (within the meaning of Code Section 416(i)(1)) shall be determined under (a) the method, if any, that uniformly applies for accrual purposes under all plans maintained by the Controlled Group, or (b) if there is no such method, as if such benefit accrued not more rapidly than the slowest accrual rate permitted under the fractional accrual rate of Code Section 411(b)(1)(C).

ARTICLE XIII . Miscellaneous

13.1 Prohibition on Assignment of Interest. Except as provided in a QDRO, and to the extent permitted by law and except as otherwise provided in this Plan, no interest, right or claim of any kind of a Participant or Beneficiary hereunder shall be assignable or transferable by the

Participant or Beneficiary, nor shall any such right or interest be subject to sale, mortgage, pledge, hypothecation, commutation, alienation, anticipation, encumbrance, garnishment, attachment, execution or levy of any kind, voluntary or involuntary. The Administrator shall establish procedures to determine the qualified status of domestic relations orders and to administer distributions under such qualified orders in accordance with Code Section 414(p). Notwithstanding any other provision of this Plan to the contrary, the Plan shall honor a judgment, order, decree or settlement providing for the offset of all or a part of a Participant's benefit under the Plan, to the extent permitted under Code Section 401(a)(13)(C); provided that the requirements of Code Section 401(a)(13)(C)(iii) relating to the protection of the Participant's spouse (if any) are satisfied.

13.2 Facility of Payment. In the event the Administrator finds that any Participant or Beneficiary to whom a benefit is payable under the Plan is (at the time such benefit is payable) unable to care for his or her affairs because of physical, mental or legal incompetence, the Administrator, in its sole discretion, may cause any payment due to him hereunder, for which prior claim has not been made by a duly qualified guardian or other legal representative, to be paid to the person or institution deemed by the Administrator to be maintaining or responsible for the maintenance of such Participant or Beneficiary; and any such payment shall be deemed a payment for the account of such Participant or Beneficiary and shall constitute a complete discharge of any liability therefor under the Plan.

13.3 No Enlargement of Employment Rights. A Participant by accepting benefits under the Plan does not thereby agree to continue for any period in the employ of his or her Employer, and the Employers by adopting the Plan, making contributions or taking any action with respect to the Plan do not obligate themselves to continue the employment of any Participant for any period.

13.4 Merger or Transfer of Assets. The Company reserves the right to merge or consolidate the Plan with, and to transfer assets and liabilities of the Plan to, any other plan, without the consent of any other Employer or other person, if such transfer is effectuated in accordance with applicable law and if such other plan meets the requirements of Code Sections 401(a) and 501(a), permits the receipt of such transfer and, with respect to the liabilities to be transferred, satisfies the requirements of Code Section 411(d)(6). Without limiting the generality of the foregoing, there shall not be any merger or consolidation of this Plan with, or transfer of assets or liabilities of this Plan to, any other plan, unless each Participant in the transferee plan would (if such other plan then terminated) receive a benefit immediately after the merger, consolidation or transfer which is equal to or greater than the benefit the Participant would have been entitled to receive immediately before the merger, consolidation, or transfer (if the Plan had then terminated).

13.5 Severability Provision. If any provision of this Plan or the application thereof to any circumstance or person is invalid, the remainder of this Plan and the application of such provision to other circumstances or persons shall not be affected thereby.

13.6 Military Service. Notwithstanding any other provision of this Plan to the contrary, contributions, benefits and service credit with respect to qualified military service, as defined in Section 2.4, will be provided in accordance with Code Section 414(u).

If a Participant dies on or after January 1, 2007 while performing qualified military service (as defined in Section 2.4), that Participant will be deemed to have resumed employment with the Employer in accordance with the individual's reemployment rights under USERRA on the day preceding death and will be deemed to have terminated employment on the actual date of death.

13.7 Electronic Media. Notwithstanding any provision of this Plan to the contrary, including any provision which requires the use of a written instrument, to the extent permitted by applicable law, the Administrator may establish procedures for the use of electronic media in communications and transactions between this Plan or the Administrator and Participants and Beneficiaries. Electronic media may include, but are not limited to, e-mail, the Internet, intranet systems and telephonic response systems.

13.8 Limitations on Investments and Transactions/Conversions. Notwithstanding any provision of this Plan to the contrary:

(1) The Administrator**,** in its sole and absolute discretion, may temporarily suspend, in whole or in part, certain Plan transactions, including, without limitation, the right to change or suspend contributions, and/or the right to receive a distribution, loan or withdrawal from an Account in the event of any conversion, change in recordkeeper and/or Plan merger or spinoff.

(2) The Administrator, in its sole and absolute discretion, may suspend, in whole or in part, temporarily or permanently, Plan transactions dealing with investments, including without limitation, the right of a Participant to change investment elections or reallocate Account balances in the event of any conversion, change in recordkeeper, change in investment funds and/or Plan merger or spinoff.

(3) In the event of a change in investment funds and/or a Plan merger or spinoff, the Administrator, in its sole and absolute discretion, may decide to map investments from a Participant's prior investment fund elections to the then available investment funds under the Plan. In the event that investments are mapped in this manner, the Participant shall be permitted to reallocate funds among the investment funds (in accordance with the terms of the Plan and any relevant rules and procedures adopted for this purpose) after the suspension period described in Subsection (2) of this Section 13.8 (if any) is lifted.

(4) Notwithstanding any provision of the Plan to the contrary, the investment funds shall be subject to, and governed by, all applicable legal rules and restrictions and the rules specified by the Investment Fund providers in the fund prospectus(es) or other governing documents thereof (to the extent such rules and procedures are imposed and enforced by the investment fund provider against the Plan or a particular Participant). Such rules, procedures and restrictions may limit the ability of a Participant to make transfers into or out of a particular Investment Fund and/or may result in additional transaction fees or other costs relating to such transfers. In furtherance of, but without limiting the foregoing, Trustee, recordkeeper, Administrator, Investment Committee or Investment Fund provider (or their delegate, as applicable) may decline to implement any investment election or instruction where it deems appropriate.

13.9 Subrogation and Reimbursement. Errors, omissions or mistakes in the administration and operation of the Plan do not entitle a Participant to receive more than the Participant's correct benefit, and a Participant who receives an overpayment must repay the overpayment, if requested do so by the Administrator. The Employer and Administrator reserve the right to correct any mistake in any reasonable manner, including but not limited to, adjusting the amount of future benefit payments, repaying to the Plan any overpayment or making catch-up payments to a Participant of an underpayment.

ARTICLE XIV . Other Employers

14.1 Adoption by Other Employers. Any corporation or other entity other than the Company may, with the consent of the Company, adopt the Plan and thereby become an Employer hereunder by executing an instrument evidencing such adoption and filing a copy thereof with the Company. Such adoption may be subject to such terms and conditions as the Company requires or approves.

14.2 Contribution of Employers. The contribution of the Employers under the Plan may be paid by the Company on behalf of itself and other Employers. Each Employer shall pay for that portion of the contribution of the Employers under the Plan for each year that is allocated to Employees or former Employees of such Employer, but if such costs as so allocated would (in the opinion of the Company) not be fully and currently deductible for any Plan Year, the allocation among the Employers of the costs of the Plan, including the contribution of the Employers, may be made in such manner as is agreed to by the Employers and as will permit to the extent possible the deduction (for purposes of federal taxes on income) by each such Employer of its payments toward such costs.

14.3 Withdrawal of Employer. Any Employer (other than the Company) which adopts the Plan may elect separately to withdraw from the Plan. Amendments to the Plan, however, may be made only by the Company. Any such withdrawal shall be expressed in an instrument executed by the withdrawing Employer and filed with the Company and the Trustee.

ARTICLE XV . Amendment or Termination

The Primary Plan's provisions regarding the amendment, modification and termination of the Plan apply. In the event of termination of the Plan in whole or in part, or upon the complete discontinuance of contributions, Accounts of affected Participants in the Trust Fund shall be settled and distributed under the provisions of Article VIII, or, at the direction of the Company, as if each Participant of the Plan had then terminated employment with the Controlled Group. Notwithstanding any other provision of the Plan, upon the termination or partial termination of the Plan or upon complete discontinuance of contributions under the Plan, the rights of all Participants to benefits accrued to the date of such termination or partial termination or discontinuance, to the extent then funded, or the amounts credited to the Participants' Accounts shall be nonforfeitable.

ARTICLE XVI . May 14, 2021, Sale Transaction

As noted in the Preamble to the Primary Plan, effective May 14, 2021, Marathon Petroleum Corporation sold Speedway LLC and certain of its affiliates to 7-Eleven, Inc. As a result of that transaction, effective May 14, 2021, (i) Marathon Petroleum Company LP retained sponsorship of the Plan, including this Speedway Component portion of the Plan; (ii) Speedway LLC and its affiliates ceased participation in the Plan as Employers; (iii) and all of Speedway LLC's and its affiliates' employee Participants ceased eligibility to actively participate in the Plan and were deemed to have had a severance from employment pursuant to applicable provisions of the Internal Revenue Code; and (iv) no additional employee deferrals or after-tax contributions and no additional employer contributions are made to the Plan under this Speedway Component with respect to such Participants.

ADDENDUM A: MINIMUM DISTRIBUTION REQUIREMENTS

(1) Definitions. For the purposes of this Addendum A, the following terms, when used with initial capital letters, shall have the following respective meanings:

(a) Designated Beneficiary: The person who is designated as the Beneficiary, as defined in Section 1.1(9) and is the designated beneficiary under Code Section 401(a)(9) and Treasury Regulations Section 1.401(a)(9)-4, Q&A-1.

(b) Distribution Calendar Year: A calendar year for which a minimum distribution is required. For distributions beginning before the Participant's death, the first Distribution Calendar Year is the calendar year immediately preceding the calendar year which contains the Participant's Required Beginning Date. For distributions beginning after the Participant's death, the first Distribution Calendar Year is the calendar year in which distributions are required to begin under paragraph (b) of Subsection (3) below. The required minimum distribution for the Participant's first Distribution Calendar Year will be made on or before the Participant's Required Beginning Date. The required minimum distribution for other Distribution Calendar Years, including the required minimum distribution for the Distribution Calendar Year in which the Participant's Required Beginning Date occurs, will be made on or before December 31 of that Distribution Calendar Year.

(c) Life Expectancy: Life expectancy as computed by use of the Single Life Table in Treasury Regulations Section 1.401(a)(9)-9.

(d) Participant's Account Balance: The Account balance as of the last Valuation Date in the calendar year immediately preceding the distribution calendar year (the "Valuation Calendar Year") increased by the amount of any contributions made and allocated or forfeitures allocated to the Account balance as of dates in the Valuation Calendar Year after the Valuation Date and decreased by distributions made in the Valuation Calendar Year after the Valuation Date. The Account balance for the Valuation Calendar Year includes any amounts rolled over or transferred to the Plan either in the Valuation Calendar Year or in the Distribution Calendar Year if distributed or transferred in the Valuation Calendar Year.

(e) Required Beginning Date: The applicable date specified in Subsection (3) below.

(2) General Rules. Notwithstanding any provision of the Plan to the contrary, at the times provided in this Section, distributions under the Plan shall be made in accordance with the minimum distribution requirements of this Section and the Treasury Regulations issued under Code Section 401(a)(9); provided, however, that distributions may be made more rapidly than required by this Section and such Treasury Regulations to the extent permitted under any other applicable provisions of the Plan.

(3) Time of Distribution.

(a) The Participant's entire vested interest will be distributed, or begin to be distributed, to the Participant no later than the Participant's Required Beginning Date. Except as described in paragraph (b) below, the Required Beginning Date of a Participant who is a 5% owner (as defined in Code Section 416) shall be the April 1 of the calendar year following the calendar year the Participant attains age 70½ and the Required Beginning Date of any other Participant shall be the April 1 of the calendar year following the later of (i) the calendar year the Participant terminates employment with the Controlled Group or (ii) the calendar year the Participant attains age 70½.

(b) If the Participant dies before distributions begin, the Participant's entire vested interest will be distributed, or begin to be distributed, no later than as follows:

(i) If the Participant's surviving Spouse is the Participant's sole Designated Beneficiary, then, unless the election described in paragraph (d) below is made, distributions to the surviving Spouse will begin by December 31 of the calendar year immediately following the calendar year in which the Participant died, or by December 31 of the calendar year in which the Participant would have attained age 70½, if later.

(ii) If the Participant's surviving Spouse is not the Participant's sole Designated Beneficiary, then, unless the election described in paragraph (d) below is made, distributions to the Designated Beneficiary will begin by December 31 of the calendar year immediately following the calendar year in which the Participant died.

(iii) If there is no Designated Beneficiary as of September 30 of the year following the year of the Participant's death, the Participant's entire vested interest will be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(iv) If the Participant's surviving Spouse is the Participant's sole Designated Beneficiary and the surviving Spouse dies after the Participant, but before distributions to the surviving Spouse begin, this paragraph (b), other than subparagraph (i) above, will apply as if the surviving Spouse were the Participant.

(c) For purposes of this Section, unless subparagraph (iv) of paragraph (b) above applies, distributions are considered to begin on the Participant's Required Beginning Date. If subparagraph (iv) of paragraph (b) above applies, distributions are considered to begin on the date distributions are required to begin to the surviving Spouse under subparagraph (i) of paragraph (b) above.

(d) Notwithstanding the foregoing, if a Participant dies before distributions begin and there is a Designated Beneficiary, distribution to the Designated Beneficiary is not required to begin by the Required Beginning Date specified above if the Participant or the Beneficiary elects, on an individual basis, that the Participant's entire vested interest will be distributed to the Designated Beneficiary by December 31 of the calendar year containing the fifth anniversary of the Participant's death; provided, however, that if the Participant's surviving Spouse is the Participant's sole Designated Beneficiary and the surviving Spouse dies after the Participant, but before distributions to either the Participant of the surviving Spouse begin, this election will apply as if the surviving Spouse were the Participant. The election provided in this paragraph (d) must be made no later than the earlier of September 30 of the calendar year in which distribution would be required to begin, or by September 30 of the calendar year which contains the fifth anniversary of the Participant's (or, if applicable, surviving Spouse's) death.

(4) Required Minimum Distributions During Participant's Lifetime.

(a) During the Participant's lifetime, the minimum amount that will be distributed for each Distribution Calendar Year is the lesser of:

(i) the quotient obtained by dividing the Participant's Account balance by the distribution period in the Uniform Lifetime Table set forth in Treasury Regulations Section 1.401(a)(9)-9, using the Participant's age as of the Participant's birthday in the Distribution Calendar Year; or

(ii) if the Participant's sole Designated Beneficiary for the Distribution Calendar Year is the Participant's Spouse, the quotient obtained by dividing the Participant's Account balance by the number in the Joint and Last Survivor Table set forth in Treasury Regulations Section 1.401(a)(9)-9, using the Participant's and Spouse's attained ages as of the Participant's and Spouse's birthdays in the Distribution Calendar Year.

(b) Required minimum distributions will be determined under this Subsection (4) beginning with the first Distribution Calendar Year and up to and including the Distribution Calendar Year that includes the Participant's date of death.

(5) Required Minimum Distributions After Participant's Death.

(a) Death on or after date distributions begin:

(i) If the Participant dies on or after the date distributions begin and there is a Designated Beneficiary, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account balance by the longer of the remaining Life Expectancy of the Participant or the remaining Life Expectancy of the Participant's Designated Beneficiary, determined as follows:

(A) The Participant's remaining Life Expectancy is calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.

(B) If the Participant's surviving Spouse is the Participant's sole Designated Beneficiary, the remaining Life Expectancy of the surviving Spouse is calculated for each Distribution Calendar Year after the year of the Participant's death using the surviving Spouse's age as of the Spouse's birthday in that year. For Distribution Calendar Years after the year of the surviving Spouse's death, the remaining Life Expectancy of the surviving Spouse is calculated using the age of the surviving Spouse as of the Spouse's birthday in the calendar year of the Spouse's death, reduced by one for each subsequent calendar year.

(C) If the Participant's surviving Spouse is not the Participant's sole Designated Beneficiary, the Designated Beneficiary's remaining Life Expectancy is calculated using the age of the Beneficiary in the year following the year of the Participant's death, reduced by one for each subsequent year.

(ii) If the Participant dies on or after the date distributions begin and there is no Designated Beneficiary as of September 30 of the year after the year of the Participant's death, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account balance by the Participant's remaining Life Expectancy calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.

(b) Death before date distributions begin:

(i) If the Participant dies before the date distributions begin and there is a Designated Beneficiary, then, unless the election described in paragraph (d) of Subsection (3) above is made, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account balance by the remaining Life Expectancy of the Participant's Designated Beneficiary, determined as provided in paragraph (a) above.

(ii) If the Participant dies before the date distributions begin and there is no Designated Beneficiary as of September 30 of the year following the year of the Participant's death, distribution of the Participant's entire vested interest will be completed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

If the Participant dies before the date distributions begin, the Participant's surviving Spouse is the Participant's sole Designated Beneficiary, and the surviving Spouse dies before distributions are required to begin to the surviving Spouse under subparagraph (i) of Subsection (3)(b) above, this paragraph (b) will apply as if the surviving Spouse were the Participant.

ADDENDUM B: Service for Prior Employers

Prior Employer	Service Crediting Rules	First Date of Participation	Notes
Andeavor	For Vesting Service purposes, an Andeavor-Acquired Employee whose approved transfer date to an Employer occurred on or before December 31, 2018, their actual Andeavor accredited service as of 11:59 PM on December 31, 2018, will have the greater of the following recognized as Vesting Service: 1.) Actual Andeavor accredited service on an elapsed time basis as of 11:59 PM on December 31, 2018, with fractional years rounded up to the next whole year or 2.) Actual Vesting Service under the Andeavor 401(k) Plan or Andeavor Retail 401(k) Plan as of 11:59 PM on December 31, 2018, if applicable. No benefit accruals will be credited with respect to prior Andeavor service.	01/01/2019	1
Express Mart	For Vesting Service purposes, if employed by Express Mart immediately prior to transferring to an Employer, their Express Mart service will be recognized for Vesting Service purposes on an elapsed time basis, rounded upward to the next full year, if presented fractionally. Effective as of November 5, 2018, if employed by Express Mart immediately prior to transferring to an Employer, their Express Mart service date will be used toward satisfying the 1,000-hour rule for 2018 eligibility of non-elective contributions, if not otherwise satisfied using actual hours worked from the Speedway acquisition date. (Age 21 and employed at 12/31 apply)	11/05/18 – 02/01/19 (multiple acquisition dates)	2
Hess Corporation, WilcoHess LLC, and Hess Retail Operations LLC	Service shall be recognized for vesting and eligibility purposes for the Speedway Component only	01/01/16	
NOCO	For Vesting Service purposes, if employed by NOCO immediately prior to transferring to an Employer, their NOCO service will be recognized for Vesting Service purposes on an elapsed time basis, rounded upward to the next full year, if presented fractionally. Effective as of July 9, 2019, if employed by NOCO immediately prior to transferring to an Employer, only their Speedway service will be used toward satisfying the 1,000-hour rule for 2019 eligibility of non-elective contributions. (Age 21 and employed at 12/31 apply and only earnings from the Speedway acquisition date will be eligible.)	07/09/19 – 07/25/19, or the later of the last employee transaction (multiple acquisition dates)	3

If service is recognized for vesting, it also is recognized for eligibility to participate.

Note 1: For any new hire (non-transferee) or re-hire to an Employer after October 1, 2018, who satisfies the eligibility requirements of Article II and who has previous accredited service with Andeavor or an employer within the Controlled Group to which Andeavor belonged, their actual Andeavor accredited service from October 1, 2018 rounded up to the next whole year will be recognized for Vesting Service purposes. Actual Andeavor accredited service prior to October 1, 2018, will be recognized for purposes. No benefit accruals will be credited with respect to prior Andeavor service.

Note 2: For any new hire (non-transferee) or re-hire to an Employer who satisfies the eligibility requirements of Article II and who has previous accredited service with Express Mart, their actual Express Mart accredited service will not be recognized for any purposes under the terms of the Plan.

Note 3: For any new hire (non-transferee) or re-hire to an Employer who satisfies the eligibility requirements of Article II and who has previous accredited service with NOCO, their actual NOCO accredited service will not be recognized for any purposes under the terms of the Plan.

ADDENDUM C: Provisions Specific to Andeavor Retail Employees

The following provisions apply to Participants who are Andeavor Retail Employees.

Notwithstanding any other provision in the Plan to the contrary:

1. A Participant's nonvested amounts attributable to the Andeavor Retail 401(k) Plan held under the Plan as of the 2019 Plan Merger Date, if any, shall continue to be subject to the following vesting schedules, which are the same vesting schedules that applied under the Andeavor Retail 401(k) Plan immediately prior to the 2019 Plan Merger Date.

Except to the extent provided below, the percentage of the Participant's Annual Nonelective Employer Contribution Account, to which he or she is entitled shall be determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 1 year	0%
1 year or more	100%

Notwithstanding the foregoing schedule, a Participant whose employment is involuntarily terminated as a result of a layoff shall be 100% vested in his Account. The determination of whether the Participant's employment has been "involuntarily terminated as a result of a layoff' shall be made by the Company, in its sole and absolute discretion.

Further, notwithstanding the foregoing, a Participant whose Company Matching Contribution Account includes a Northern Tier Energy Matching SubAccount for matching contributions made under the Northern Tier Energy Retirement Savings Plan prior to January 1, 2017; a Giant Industries Matching SubAccount I for discretionary employer matching contributions made under the Giant Industries, Inc. & Affiliated Companies 401(k) Plan between January 1, 2004 and January 1, 2008; or a Northern Tier Energy Retail Savings Matching SubAccount for fixed profit sharing contributions made under the Northern Tier Retail Savings Plan, which assets transferred to the Northern Tier Energy Retirement Savings Plan, effective January 1, 2015; shall be entitled to such Northern Tier Energy Matching SubAccount, such Giant Industries Matching SubAccount I, and such Northern Tier Energy Retail Savings Matching SubAccount as determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 1 year	0%
1 year or more	100%

Further, notwithstanding the foregoing, a Participant whose Company Matching Contribution Account includes a Western Refining Matching SubAccount for matching employer contributions made under the Western Refining & Affiliated Companies 40l(k) Plan prior to January 1, 2002 shall be entitled to such Western Refining Matching SubAccount as determined in accordance with the following schedule:

Completed Years of Service	Percentage Vested
Less than 3 years	0%
3 years but less than 4 years	20%
4 years but less than 5 years	40%
5 years but less than 6 years	60%
6 years but less than 7	80%
7 years or more	100%

Finally, notwithstanding the foregoing, a Participant whose Nonelective Contribution Account includes a Western Refining Nonelective Contribution SubAccount for discretionary profit sharing nonelective contributions made under the Western Refining & Affiliated Companies 401(k) Plan on behalf of employees who were hired prior to January 1, 2017 and a Participant whose Company Matching Contribution Account includes a Giant Industries Matching SubAccount II for discretionary employer matching contributions made under the Giant Industries, Inc. & Affiliated Companies 401(k) Plan on behalf of employees who were hired prior to January 1, 2004 are immediately vested in such Western Refining Nonelective Contribution SubAccount and such Giant Industries Matching SubAccount II.

2. A Participant shall 100% vest in his or her unvested accounts attributable to the Andeavor Retail 401(k) Plan in the event of Disability while still employed by a member of the Controlled Group. This provision shall also apply to a Participant who becomes disabled while performing Qualified Military Service, as if such individual had resumed employment on the day immediately preceding his or her Disability. "Disability" (and "disabled") for these purposes means a physical or mental condition that renders the Participant incapable of performing the work for which he or she was employed or similar work, as evidenced by eligibility for and receipt of Social Security disability benefits or, if applicable, disability benefits under the Company's long-term disability plan with respect to which the Participant is eligible to participate. "Qualified Military Service" for these purposes means service in the uniformed services (as defined in Chapter 42 of Title 38 of the United States Code) by the Participant if such individual has reemployment rights under such Chapter with respect to such service.

3. Subject to the other provisions of this Addendum C, a Participant's nonvested amounts held under the Plan as of the 2019 Plan Merger Date, if any, shall be subject to the forfeiture and reinstatement rules under this Plan, which are the same as, or more favorable to members than that of, the Andeavor Retail 401(k) Plan.

4. To the extent not otherwise provided for under the Plan's withdrawal rules for like contribution types, and subject to such procedures as the Plan Administrator may from time to time adopt, a Participant may make the following withdrawals from that portion of his or her Plan account consisting of the following contribution types as defined under the Andeavor Retail 401(k) Plan as then in effect on the 2019 Plan Merger Date:

A. Rollover Contributions. A Participant may withdraw all or any part of the value of his or her Rollover Contribution Account and, upon exhaustion of all amounts in such individual's Rollover Contribution Account, any part of the value of his or her Qualified Roth Transfer Account that is attributable to Rollover Contributions at any time by submitting a request in such manner as prescribed by the Plan Administrator.

5. The accounts specified in paragraphs 1, 2 and 4 above shall have the same meanings and shall include the same amounts as defined under the Andeavor Retail 401(k) Plan as then in effect on the 2019 Plan Merger Date, as adjusted for earnings and losses after such date.

6. "Years of Service" for purposes of a Participant's vesting in his or her accounts under paragraph 1 above shall be determined as defined under the Andeavor Retail 401(k) Plan as then

in effect on the 2019 Plan Merger Date. Additionally, for purposes of determining the Years of Vesting Service, each Participant shall be credited with no less than the same vesting service (and vested interest) such Participant was credited with under the Andeavor Retail 401(k) Plan immediately prior to the 2019 Plan Merger Date as provided in Addendum B.

7. Through June 30, 2019, the form of distribution rules under the Andeavor Retail 401(k) Plan that were in effect on the 2019 Plan Merger Date shall continue to apply to a Participant's vested amounts under the Andeavor Retail 401(k) Plan as determined on the 2019 Plan Merger Date, and with such amounts adjusted for earnings and losses; beginning July 1, 2019, the Plan's form of distribution rules shall apply to such individuals and such amounts.

Exhibit 10.51

The Marathon Petroleum Excess Benefit Plan is amended, effective September 1, 2022, as follows:

1. The definitions of "Legacy Retirement Benefit" and "Retirement Plan" in Article I are amended, to read as follows, so as to reflect the most recent amendment and restatement of the Marathon Petroleum Retirement Plan:

"**Legacy Retirement Benefit**" as defined in the Retirement Plan, means the Participant's retirement benefit (if any) determined under Section 3.3 of Appendix A (the Marathon Component) of the Retirement Plan, without taking into account any Plan Participation Service after December 31, 2009.

"**Retirement Plan**" means the Marathon Petroleum Retirement Plan, as in effect from time to time, including as most recently amended and restated effective as of December 31, 2019, and as thereafter amended from time to time, and, specifically, where the context so requires in this Plan, Appendix A (the Marathon Component) thereof.

2. Section 3.1 of the Marathon Petroleum Excess Benefit Plan is amended, effective September 1, 2022, by the addition of a new paragraph (e) at the end thereof, reading as follows:

(e) Notwithstanding any provision of this Section 3.1 to the contrary, a Participant's Excess Retirement Benefit shall be determined under this Section 3.1 without giving effect to any in-service distribution of the Participant's Legacy Retirement Benefit type benefit under the Retirement Plan, such that the Participant's Excess Retirement Benefit shall be determined as if the Participant had not taken an in-service distribution of their Legacy Retirement Benefit type benefit.

Exhibit 10.52

MPLX LP
PHANTOM UNIT AWARD AGREEMENT

SENIOR LEADERS (CEO, DESIGNATED POSITIONS & EXECUTIVE RESOURCES)

As evidenced by this Award Agreement and under the MPLX LP 2018 Incentive Compensation Plan, as amended (the "Plan"), MPLX GP LLC, a Delaware limited liability company (the "Company"), the general partner of MPLX LP, a Delaware limited partnership (the "Partnership") has granted to **{Participant Name}** (the "Participant"), an Employee and/or Officer of the Company, Partnership or an Affiliate, on **{Grant Date}** (the "Grant Date"), **{Number of Awards Granted}** Phantom Units (the "Award"), with each Phantom Unit representing the right to receive a Unit of the Partnership, subject to the terms and conditions in the Plan and this Award Agreement. The number of Phantom Units awarded is subject to adjustment as provided in the Plan, and the Phantom Units hereby granted are also subject to the following terms and conditions:

1. Relationship to the Plan. This Award is subject to all of the terms, conditions and provisions of the Plan and administrative interpretations thereunder, if any, that have been adopted by the Board. Except as defined in this Award Agreement, capitalized terms shall have the same meanings given to them under the Plan. To the extent that any provision of this Award Agreement conflicts with the express terms of the Plan, the terms of the Plan shall control and, if necessary, the applicable provisions of this Award Agreement shall be hereby deemed amended so as to carry out the purpose and intent of the Plan.

2. Vesting and Forfeiture of Phantom Units.

(a) Subject to Paragraph 3, the Phantom Units shall vest as follows:

(i) one-third of the Phantom Units shall vest on the first anniversary of the Grant Date;
(ii) an additional one-third of the Phantom Units shall vest on the second anniversary of the Grant Date; and
(iii) all remaining Phantom Units shall vest on the third anniversary of the Grant Date;

provided, however, that the Participant must be in continuous Employment from the Grant Date through the applicable vesting date in order for the applicable Phantom Units to vest. If the Employment of the Participant is terminated for any reason other than one listed in subparagraph (b)(i) – (iv) of this Paragraph 2, any Phantom Units that have not vested as of the date of such termination of Employment shall be immediately forfeited to the Company.

(b) Subject to Paragraph 3, the Phantom Units shall immediately vest in full, irrespective of the limitations set forth in subparagraph (a) of this Paragraph 2, upon the occurrence of any of the following events:

(i) the Participant's death;

(ii) the Participant's Approved Separation, provided the Participant has been in continuous Employment from the Grant Date to the Approved Separation;

(iii) the termination of the Participant's Employment due to Mandatory Retirement, provided the Participant has been in continuous Employment from the Grant Date to the Mandatory Retirement; or

(iv) the Participant's Qualified Termination, provided, that the Participant has been in continuous Employment from the Grant Date to the Qualified Termination.

3. Forfeiture of Phantom Units if Award Not Timely Accepted. This Award is conditioned upon and subject to the Participant accepting the Award by signing and delivering to the Company this Award Agreement, or otherwise electronically accepting the Award in such manner as the Board may in its discretion determine, no later than 11 months after the Grant Date. If the Participant does not timely accept this Award, all Phantom Units subject to this Award shall be forfeited to the Company. In the event of the Participant's death or incapacitation prior to accepting the Award, the Company shall deem the Award as having been accepted by the Participant.

4. Distribution Equivalent Right ("DER"). This Award includes a DER, the terms of which are set forth in this Paragraph 4. During the period between the Grant Date and the date the Phantom Units are settled, for any distributions from the Partnership on outstanding Units of the Partnership, the Participant shall be credited with the equivalent of all of the distributions that would be payable with respect to the Unit of the Partnership represented by each Phantom Unit, including any fractional Phantom Units, then credited to the Participant and the amount related to such credited distributions shall be accrued as a credit to the Participant's account on the date such distribution is made. Any additional cash or Phantom Units credited pursuant to this Paragraph 4 shall be subject to the same terms and conditions applicable to the Phantom Units to which these distributions relate, including, without limitation, the same vesting, restrictions on transfer, forfeiture, settlement, distribution, tax withholding, repayment and other terms, conditions and restrictions.

5. Settlement and Issuance of Units. Subject to the terms of the Plan, all vested amounts payable to the Participant in respect of the Phantom Units, including the issuance of Units of the Partnership pursuant to this Paragraph 5, shall be settled in Units and for cash accruals credited under Paragraph 4 above, in cash, within 60 days following the vesting date, however, provided that any Phantom Units that vest on account of the Participant's Approved Separation, Mandatory Retirement or Qualified Termination under Paragraphs 2(b)(ii), (iii) or (iv) shall be released and settled as provided herein, but according to the same payment timing resulting from the normal course vesting schedule set forth in Paragraph 2(a), and in such circumstance the Participant must only be in continuous Employment from the Grant Date to the applicable vesting event (i.e., the Participant's Approved Separation, Mandatory Retirement or Qualified Termination is a vesting event and not a payment event). During the period of time between the Grant Date and the date the Phantom Units settle, the Phantom Units will be evidenced by a credit to a bookkeeping account evidencing the unfunded and unsecured right of the Participant to receive Units, subject to the terms and conditions applicable to the Phantom Units. Following vesting and upon the settlement date as described above, the Participant shall be entitled to receive a number of Units of the Partnership equal to the total of the number of Phantom Units granted, with any fractional Phantom Units remaining settled in cash. Such Units shall be issued and registered in the name of the Participant. The Participant shall not have the right or be entitled to exercise any voting rights, receive distributions or have or be entitled to any rights as a Partnership unitholder in respect of the Phantom Units until such time as the Phantom Units have vested and been settled and corresponding Units of the Partnership have been issued. Notwithstanding the preceding sentence of this Paragraph 5, in the event of death, any Units that are otherwise deliverable under this Award (including Units resulting from the vesting of any Phantom Units on account of death) will be distributed to the correlated brokerage account (or the SPS Participant Trust if an international employee) and will be subject to the designated beneficiary on file and then in effect with the recordkeeper for such brokerage (or the SPS Participant Trust, where applicable), or in the absence of a designated beneficiary, to the executor or administrator of the estate.

6. Taxes. Pursuant to the applicable provisions of the Plan, the Company or its designated representative shall have the right to withhold applicable taxes from the Units otherwise deliverable to the Participant due to the vesting of Phantom Units pursuant to Paragraph 2, or from other compensation payable to the Participant, at the time of the vesting and delivery of such Units. Because the Participant is an employee of an Affiliate, and provides beneficial services to the Company and/or the Partnership through such employment with that Affiliate, such Affiliate as the employer of Participant shall be the designated representative for purposes of payroll administration of the Award and withholding of applicable taxes at the time of vesting.

7. Conditions Precedent.

This Paragraph 7 shall apply to this Award notwithstanding any other provision of this Award Agreement to the contrary. The Participant's services to the Company, the Partnership and MPC and their Affiliates (the "Company Group") are unique, extraordinary and essential to the business of the Company Group, particularly in view of the Participant's access to the confidential information and trade secrets of members of the Company Group, such as, the Company, the Partnership and MPC. Accordingly, in consideration of this Award Agreement and by accepting this Award, the Participant agrees that in order to otherwise vest in any right to payment of Phantom Units under this Award, the Participant must satisfy the following conditions to and including the vesting date and the payment date for each applicable annual installment or other applicable portion of this Award:

(a) The Participant agrees that the Participant will not, without the prior written approval of the Board, at any time during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates (the "Restricted Period"), directly or indirectly, serve as an officer, director, owner, contractor, consultant, or employee of any the following organizations (or any of their respective subsidiaries or divisions): BP plc; Chevron Corporation; ExxonMobil Corporation; HF Sinclair Corporation; PBF Energy Inc.; Phillips 66; Valero Energy Corporation; Buckeye Partners, L.P.; DCP Midstream Partners, L.P; Enterprise Product Partners; Genesis Energy, L.P.; Holly Energy Partners L.P.; Magellan Midstream Partners, L.P.; Phillips 66 Partners, L.P.; Plains All American Pipeline L.P.; Western Midstream Partners, or otherwise engage in any business activity directly or indirectly competitive with the business of the any member of the Company Group as in effect from time to time.

(b) The Participant agrees that during the term of the Participant's Employment and for a period of one year following the date on which the Participant's Employment terminates, the Participant will not, alone or in conjunction with another party, hire, solicit for hire, aid in or facilitate the hire, or cause to be hired, either as an employee, contractor or consultant, any individual who is currently engaged, or was engaged at any time during the six month period prior such event, as an employee, contractor or consultant of any member of the Company Group.

(c) The Participant agrees that the Participant may not, either during the Participant's Employment or thereafter, make or encourage others to make any public statement or release any information or otherwise engage in any conduct that is intended to, or reasonably could be foreseen to, embarrass, criticize or harm the reputation or goodwill of the any member of the Company Group, or any of their employees, directors or shareholders; provided that this shall not preclude the Participant from reporting to the Company's management or directors or to the government or a regulator conduct the Participant believes to be in violation of the law or the Code of Business Conduct (or similar code or rules) of any member of the Company Group or responding truthfully to questions or requests for information to the government, a regulator or in a court of law in connection with a legal or regulatory investigation or proceeding.

(d) The Participant agrees and understands that the members of the Company Group own and/or control information and material which is not generally available to third parties and which the members of the Company Group consider confidential, including, without limitation, methods, products, processes, customer lists, trade secrets and other information applicable to its business and that it may from time to time acquire, improve or produce additional methods, products, processes, customers lists, trade secrets and other information (collectively, the "Confidential Information"). The Participant acknowledges that each element of the Confidential Information constitutes a unique and valuable asset of the members of the Company Group, and that certain items of the Confidential Information have been acquired from third parties upon the express condition that such items would not be disclosed to all or certain members of the Company Group and the officers and agents thereof other than in the ordinary course of business. The Participant acknowledges that disclosure of the Confidential Information to and/or use by anyone other than in the Company, the Partnership's, or MPC's or other Company Group member's ordinary course of business would result in irreparable and continuing damage to the Company, the Partnership and/or MPC and/or other members of the Company Group. Accordingly, the Participant agrees to hold the Confidential Information in the strictest secrecy, and covenants that, during the term of the Participant's Employment or at any time thereafter, the Participant will not, without the prior written consent of the Board, directly or indirectly, allow any element of the Confidential Information to be disclosed, published or used, nor permit the Confidential Information to be discussed, published or used, either by the Participant or by any third parties, except in effecting the Participant's duties for the Company, the Partnership and/or MPC and/or other Company Group members in the ordinary course of business.

(e) The Participant agrees that in addition to the forfeiture provisions otherwise provided for in this Award Agreement, upon the Participant's failure to satisfy in any respect of any of the conditions described in Paragraphs 7(a), (b), (c) or (d), any unvested or unpaid portion of this Award (including any otherwise vested, but unpaid portion of this Award) at the time of such failure shall be forfeited, and the rights of the Participant and the obligations of the Company under this Award Agreement shall be satisfied in full, in each case to the extent permitted by applicable law.

8. Forfeiture or Repayment Resulting from Forfeiture Event.

(a) If there is a Forfeiture Event during the Participant's Employment or within two years after termination of the Participant's Employment, then the Board may, but is not obligated to, cause all of the Participant's unvested Phantom Units and vested, but unpaid Phantom Units to be forfeited by the Participant and returned to the Company.

(b) If there is a Forfeiture Event either during the Participant's Employment or within two years after termination of the Participant's Employment, then with respect to Phantom Units granted under this Award Agreement that have vested and have been paid to the Participant, the Board may, but is not obligated to, require that the Participant pay to the Company an amount (the "Forfeiture Amount") up to (but not in excess of) the lesser of (i) the value of such previously vested Phantom Units as of the date such Phantom Units vested or (ii) the value of such previously vested Phantom Units as of the date on which the Board makes a demand for payment of the Forfeiture Amount. Any Forfeiture Amount shall be paid by the Participant within 60 days of receipt from the Company of written notice requiring payment of such Forfeiture Amount.

(c) This Paragraph 8 shall apply notwithstanding any provision of this Award Agreement to the contrary and is meant to provide the Company with rights in addition to any other remedy which may exist in law or in equity. This Paragraph 8 shall not apply to the Participant following the effective time of a Change in Control.

(d) Notwithstanding the any other provision of this Award Agreement to the contrary, the Participant agrees that the Company may also require that the Participant repay to the Partnership (or the Company or an Affiliate) any compensation paid to the Participant under this Award Agreement, as is required by the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations thereunder or any other “clawback” provisions as required by law or by the applicable listing standards of the exchange on which the Units of the Partnership are listed for trading.

9. Nonassignability. Upon the Participant’s death, the Phantom Units credited to the Participant under this Award Agreement shall be transferred to the Participant’s designated beneficiary, personal representative or estate as provided in Paragraph 5. Otherwise, the Participant may not sell, transfer, assign, pledge or otherwise encumber any portion of the Phantom Units, and any attempt to sell, transfer, assign, pledge or encumber any portion of the Phantom Units shall have no effect.

10. Nature of the Grant. Under this Award Agreement, the Participant is subject to condition that this Award of Phantom Units is voluntary and occasional and this Award Agreement does not create any contractual or other right to receive future Awards of Phantom Units, or benefits in lieu of Phantom Units even if Phantom Units have been awarded repeatedly in the past.

11. No Employment Guaranteed. Nothing in this Award Agreement shall give the Participant any rights to (or impose any obligations for) continued Employment by the Company or any Affiliate or successor, nor shall it give such entities any rights (or impose any obligations) with respect to continued performance of duties by the Participant.

12. Modification of Agreement. Any modification of this Award Agreement shall be binding only if evidenced in writing and signed by an authorized representative of the Company, provided that no modification may, without the consent of the Participant, adversely affect the rights of the Participant hereunder.

13. Specified Employee; Section 409A of the Code. This Award is intended to comply with or be exempt from the requirements of Section 409A of the Code. Notwithstanding the foregoing or any other provision of this Award to the contrary, if the Participant is a “specified employee” within the meaning of Section 409A of the Code as determined by the Company in accordance with its established policy, any settlement of any amount in this Award Agreement which would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Participant as a result of the Participant’s separation from service as defined under Section 409A of the Code (other than as a result of death) and which would otherwise be paid within six months of the Participant’s separation from service shall be paid on the date that is one day after the earlier of (i) the date that is six months after the Participant’s separation from service or (ii) the date that otherwise complies with the requirements of Section 409A of the Code. In addition, notwithstanding any provision of the Plan or this Award Agreement to the contrary, any settlement of the Phantom Units granted in this Award Agreement that would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Participant and is a settlement as a result of the Participant's separation from service in connection with a Change in Control, the term "Change in Control" under the Plan shall mean a change in ownership or change in effective control for purposes of Section 409A of the Code. The payment of each amount under this Award Agreement is deemed as a "separate payment" for purposes of Section 409A of the Code. For all purposes under this Award, "termination of Employment" and similar terms shall mean "separation from service" as defined and determined under Section 409A of the Code.

14. Definitions. For purposes of this Award Agreement:

"Approved Separation" means termination of Employment on or after the date the Participant has attained age 55 and completed five years of Employment, provided, that, the termination of Employment occurs no earlier than the later of: (a) six month anniversary of the Grant Date; and (b) 90 days after the Participant has provided notice to the Committee or its delegate of the date of his or her termination of Employment. The Committee may, in its sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee under its purview for the grant and administration of the Award, and the Chief Executive Officer of MPC may, in his or her sole discretion, waive the notice requirement under clause (b) of the preceding sentence if the Participant is an Employee not under the Committee's purview for the grant and administration of the Award.

"**Employment**" means employment with the Company or any of its subsidiaries or Affiliates including but not limited to MPC and its subsidiaries and Affiliates. The length of any period of Employment shall be determined by the Company or the subsidiary or Affiliate that either (a) employs the Participant or (b) employed the Participant immediately prior to the Participant's termination of Employment.

"**Forfeiture Event**" means the occurrence of at least one of the following events: (a) the Partnership is required, pursuant to a determination made by the Securities and Exchange Commission or by the Board, or an authorized subcommittee of the Board, to prepare a material accounting restatement due to the noncompliance of the Partnership with any financial reporting requirement under applicable securities laws as a result of misconduct, and the Board determines that (i) the Participant knowingly engaged in the misconduct, (ii) the Participant was grossly negligent with respect to such misconduct or (iii) the Participant knowingly or grossly negligently failed to prevent the misconduct or (b) the Board concludes that the Participant engaged in fraud, embezzlement or other similar misconduct materially detrimental to the Company or the Partnership.

"**Mandatory Retirement**" means termination of Employment as a result of the Company's or an Affiliate's policy, if any, in effect at the time of the Grant Date, requiring the mandatory retirement of officers and/or other employees upon reaching a certain age or milestone.

“**MPC**” means Marathon Petroleum Corporation or its successor.

“**Qualified Termination**” for purposes of this Award Agreement shall have the same definition as under the MPLX LP Executive Change in Control Severance Benefits Plan, as in effect on the Grant Date, and such definition and associated terms are hereby incorporated into this Award Agreement by reference.

MPLX GP LLC

By: ______________________________
Authorized Officer

Exhibit 21.1

MARATHON PETROLEUM CORPORATION
LIST OF SUBSIDIARIES
as of December 31, 2022

	Name of Subsidiary	Jurisdiction of Organization/Incorporation
	631 South Main Street Development LLC	Delaware
*	ADCC Pipeline, LLC	Delaware
*	Andeavor Field Services LLC	Delaware
*	Andeavor Gathering I LLC	Delaware
	Andeavor LLC	Delaware
*	Andeavor Logistics CD LLC	Delaware
*	Andeavor Logistics GP LLC	Delaware
*	Andeavor Logistics LP	Delaware
*	Andeavor Logistics Rio Pipeline LLC	Delaware
*	Andeavor Midstream Partners GP LLC	Delaware
*	Andeavor Midstream Partners LP	Delaware
*	Andeavor Midstream Partners Operating LLC	Delaware
*	Andeavor MPL Holdings LLC	Delaware
	Andeavor Rio Holdings LLC	Delaware
	Andeavor Servicios de Mexico, S. de R.L. de C.V.	Mexico
*	Ascension Pipeline Company, LLC	Delaware
*	Asphalt Terminals LLC	Delaware
*	Bakken Pipeline Investments LLC	Delaware
*	BANGL Operating, LLC	Delaware
*	BANGL, LLC	Delaware
	BEH Holding LLC	Delaware
	Blanchard Holdings Company LLC	Delaware
	Blanchard Pipe Line Company LLC	Delaware
	Blanchard Refining Company LLC	Delaware
*	Blanchard Terminal Company LLC	Delaware
	Buckeye Assurance Corporation	Vermont
	Buffalo Terminal LLC	Delaware
*	Canton Refining Logistics LLC	Delaware
*	Capline Pipeline Company LLC	Delaware
	Carson Cogeneration LLC	Delaware
*	Catlettsburg Refining Logistics LLC	Delaware
	Catlettsburg Refining, LLC	Delaware
*	Centennial Pipeline LLC	Delaware
*	Centrahoma Processing LLC	Delaware
	Central de Hidrocarburos Limpios, S. de R.L. de C.V.	Mexico
	Cincinnati BioRefining Corp.	Delaware
	Cincinnati Renewable Fuels LLC	Delaware
	Ciniza Production Company	New Mexico
*	CISPRI Services LLC	Delaware
*	Combustibles Playa Rosarito, S.A. de C.V.	Mexico
	Corn Oil and Renewable Energy LLC	Delaware
*	Crowley Blue Water Partners LLC	Delaware
*	Crowley Coastal Partners, LLC	Delaware
	Crowley Ocean Partners LLC	Delaware

Crowley Tanker Charters III, LLC	Delaware
Crowley Tankers II, LLC	Delaware
Crowley Tankers IV, LLC	Delaware
Crowley Tankers V, LLC	Delaware
* Dakota Access Holdings LLC	Delaware
* Dakota Access Truck Terminals, LLC	Delaware
* Dakota Access, LLC	Delaware
Dakota Prairie Refining, LLC	Delaware
* Delaware Basin Residue, LLC	Delaware
* Delek W2W, LLC	Delaware
* Detroit Refining Logistics LLC	Delaware
* Eastern Gulf Crude Access, LLC	Delaware
* Enchi Corporation	Delaware
* Energy Transfer Crude Oil Company, LLC	Delaware
* Enstor Waha Storage and Transportation, L.P.	Texas
* EO Resources, LLC	Oregon
* ETCO Holdings LLC	Delaware
* Everen Limited	Bermuda
* Explorer Pipeline Company	Delaware
* Galveston Bay Refining Logistics LLC	Delaware
* Garyville Refining Logistics LLC	Delaware
Giant Industries, Inc.	Delaware
Golden State Renewable Fuels LLC	Delaware
* Gravcap, Inc.	Delaware
Gray Oak Gateway Holdings LLC	Delaware
* Gray Oak Pipeline, LLC	Delaware
* Green Bison Soy Processing, LLC	Delaware
* Green River Processing, LLC	Delaware
* Guilford County Terminal Company, LLC	North Carolina
Hardin Street Holdings LLC	Delaware
* Hardin Street Marine LLC	Delaware
* Hardin Street Transportation LLC	Delaware
* Illinois Extension Pipeline Company, L.L.C.	Delaware
* Jefferson Gas Gathering Company, L.L.C.	Delaware
* JP Travel Plazas, LLC	Delaware
Kenai LNG LLC	Delaware
Kenai Pipe Line Company LLC	Delaware
* Las Animas Minerals, LTD.	Colorado
* Lincoln Pipeline LLC	Delaware
* LOCAP LLC	Delaware
* LOOP LLC	Delaware
Marathon International Holdings LLC	Delaware
Marathon International Products Supply LLC	Delaware
Marathon Maritime Company	Delaware
Marathon Petroleum Canada Trading & Supply ULC	British Columbia
Marathon Petroleum Company Canada, Ltd.	Alberta
Marathon Petroleum Company LP	Delaware
Marathon Petroleum Holding Company	Delaware
Marathon Petroleum Logistics Services LLC	Delaware
Marathon Petroleum Mexico, S. de R.L. de C.V.	Mexico
Marathon Petroleum Service Company	Delaware
Marathon Petroleum Servicios de Mexico, S. de R.L. de C.V.	Mexico

Marathon Petroleum Supply and Trading LLC	Delaware
Marathon Petroleum Supply LLC	Delaware
Marathon Petroleum Trading Canada LLC	Delaware
Marathon Petroleum Western Holdings LLC	Delaware
* Marathon Pipe Line LLC	Delaware
Marathon PrePaid Card LLC	Ohio
Marathon Refining Logistics Services LLC	Delaware
Marathon Renewable Fuels Corp.	Delaware
Marathon Trading and Supply Services Limited	United Kingdom
Marathon Transporte de Hidrocarburos, S. de R.L. de C.V.	Mexico
* MarEn Bakken Company LLC	Delaware
* MarkWest Agua Blanca Pipeline, L.L.C.	Delaware
* MarkWest Bluestone Ethane Pipeline, L.L.C.	Delaware
* MarkWest Delaware Basin Gas Company, L.L.C.	Delaware
* MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C.	Delaware
* MarkWest Energy East Texas Gas Company, L.L.C.	Delaware
* MarkWest Energy Finance Corporation	Delaware
* MarkWest Energy Operating Company, L.L.C.	Delaware
* MarkWest Energy Partners, L.P.	Delaware
* MarkWest Energy South Texas Gas Company, L.L.C.	Delaware
* MarkWest Energy West Texas Gas Company, L.L.C.	Delaware
* MarkWest Hydrocarbon, L.L.C.	Delaware
* MarkWest Liberty Bluestone, L.L.C.	Delaware
* MarkWest Liberty Ethane Pipeline, L.L.C.	Delaware
* MarkWest Liberty Gas Gathering, L.L.C.	Delaware
* MarkWest Liberty Midstream & Resources, L.L.C.	Delaware
* MarkWest Liberty NGL Pipeline, L.L.C.	Delaware
* MarkWest Mariner Pipeline, L.L.C.	Delaware
* MarkWest Ohio Fractionation Company, L.L.C.	Delaware
* MarkWest Oklahoma Gas Company, L.L.C.	Oklahoma
* MarkWest Panola Pipeline, L.L.C.	Texas
* MarkWest Panola Utility Company, L.L.C.	Delaware
* MarkWest Pioneer, L.L.C.	Delaware
* MarkWest Pipeline Company, L.L.C.	Texas
* MarkWest POET, L.L.C.	Delaware
* MarkWest Ranger Pipeline Company, L.L.C.	Delaware
* MarkWest Texas PNG Utility, L.L.C.	Texas
* MarkWest Tornado GP, L.L.C.	Delaware
* MarkWest Utica EMG, L.L.C.	Delaware
* MarkWest Utica Operating Company, L.L.C.	Delaware
* Martinez Renewables LLC	Delaware
* Matterhorn Express Pipeline, LLC	Delaware
* Midwest Connector Capital Company LLC	Delaware
* Minnesota Pipe Line Company, LLC	Delaware
MPC Alaska Terminal Company LLC	Delaware
MPC Finance Co.	Delaware
MPC International Holdings LLC	Delaware
MPC Investment Fund, Inc.	Delaware
MPC Investment LLC	Delaware
MPC Spiritwood LLC	Delaware
MPC Trade Receivables Company I LLC	Delaware
MPL Investment LLC	Delaware
* MPL Investments, Inc.	Delaware

* MPL Louisiana Holdings LLC	Delaware
* MPLX Alaska LLC	Delaware
* MPLX Alaska Logistics LLC	Delaware
* MPLX DAPLETCO Holdings LLC	Delaware
* MPLX Delaware Basin LLC	Delaware
* MPLX Fuels Distribution LLC	Delaware
MPLX GP LLC	Delaware
MPLX Logistics Holdings LLC	Delaware
* MPLX LP	Delaware
* MPLX Operations LLC	Delaware
* MPLX Ozark Pipe Line LLC	Delaware
* MPLX Pipe Line Holdings LLC	Delaware
* MPLX Refining Logistics LLC	Delaware
* MPLX Terminal and Storage LLC	Delaware
* MPLX Terminals LLC	Delaware
* MPLX W2W Pipeline Holdings LLC	Delaware
* MPLXIF LLC	Delaware
* Mt. Airy Terminal LLC	Delaware
* Mule Sidetracks, L.L.C.	Delaware
* Mule Tracts, L.L.C.	Delaware
* Muskegon Pipeline LLC	Delaware
* MWE GP LLC	Delaware
Niles Properties LLC	Delaware
Northern Tier Energy GP LLC	Delaware
Northern Tier Energy LLC	Delaware
Northern Tier Energy LP	Delaware
Northern Tier Oil Transport LLC	Delaware
Northern Tier Retail Holdings LLC	Delaware
Ocean Tankers LLC	Delaware
* Ohio Condensate Company, L.L.C.	Delaware
* Ohio Gathering Company, L.L.C.	Delaware
* Ohio River Pipe Line LLC	Delaware
* Panola Pipeline Company, LLC	Texas
* PNAC, LLC	Nevada
* Prairie Minerals, LTD.	Colorado
Redland Vision, LLC	Delaware
* Rendezvous Gas Services, L.L.C.	Wyoming
* Rendezvous Pipeline Company, LLC	Colorado
* Resource Environmental, L.L.C.	Delaware
Rio Hub LLC	Delaware
* Robinson Refining Logistics LLC	Delaware
RW Land Company	Delaware
* Sakakawea Area Spill Response LLC	Delaware
San Juan Refining Company, LLC	New Mexico
* Sherwood Midstream Holdings LLC	Delaware
* Sherwood Midstream LLC	Delaware
South Houston Green Power, LLC	Delaware
* South Texas Gateway Terminal LLC	Delaware
Speedy Prepaid Services Inc.	New Hampshire
St. Paul Park Refining Co. LLC	Delaware
Tesoro Alaska Company LLC	Delaware
* Tesoro Alaska Pipeline Company LLC	Delaware
* Tesoro Alaska Terminals LLC	Delaware
Tesoro Aviation Company	Delaware

Tesoro Companies, Inc.	Delaware
Tesoro Corporation	Arizona
Tesoro Environmental Resources Company	Delaware
* Tesoro Great Plains Gathering & Marketing LLC	Delaware
Tesoro Great Plains Holdings Company LLC	Delaware
* Tesoro Great Plains Midstream LLC	Delaware
* Tesoro High Plains Pipeline Company LLC	Delaware
* Tesoro Logistics Finance Corp.	Delaware
Tesoro Logistics GP, LLC	Delaware
* Tesoro Logistics Northwest Pipeline LLC	Delaware
* Tesoro Logistics Operations LLC	Delaware
* Tesoro Logistics Pipelines LLC	Delaware
Tesoro Maritime Company	Delaware
Tesoro Mexico Supply & Marketing, S. de R.L. de C.V.	Mexico
Tesoro Petroleum (Singapore) Pte. Ltd.	Singapore
Tesoro Refining & Marketing Company LLC	Delaware
Tesoro Renewables Company LLC	Delaware
Tesoro SoCal Cogen Company LLC	Delaware
* Tesoro SoCal Pipeline Company LLC	Delaware
Tesoro Trading Company	Delaware
* The Andersons Marathon Holdings LLC	Delaware
* Three Rivers Gathering, LLC	Delaware
Trans-Foreland Pipeline Company LLC	Delaware
Treasure Card Company LLC	Arizona
Treasure Franchise Company LLC	Delaware
TTC Holdings LLC	Delaware
* Uintah Basin Field Services, L.L.C.	Delaware
Virent Renewables Holding Company LLC	Delaware
Virent Renewables LLC	Delaware
Virent, Inc.	Delaware
* W2W Finance LLC	Delaware
* W2W Holdings LLC	Delaware
* Waha Gas Storage, LLC	Delaware
Watson Cogeneration Company	California
* West Relay Gathering Company, L.L.C.	Delaware
Western Refining Company LLC	Delaware
Western Refining Conan Gathering Holdings, LLC	Delaware
* Western Refining Conan Gathering, LLC	Delaware
Western Refining de Mexico, S. de R.L. de C.V.	Mexico
* Western Refining Delaware Basin Storage, LLC	Delaware
* Western Refining Logistics GP, LLC	Delaware
* Western Refining Logistics, LP	Delaware
* Western Refining Pipeline, LLC	New Mexico
Western Refining Product Transport, LLC	Delaware
Western Refining Southwest LLC	Arizona
* Western Refining Terminals, LLC	Delaware
Western Refining Wholesale, LLC	Delaware
Western Refining Yorktown Holding Company	Delaware
Western Refining Yorktown, Inc.	Delaware
Western Refining, Inc.	Delaware
* Whistler Pipeline LLC	Delaware
* Wink to Webster Pipeline LLC	Delaware
WNR Mexico 1, LLC	Delaware
WNR Mexico 2, LLC	Delaware

* WNRL Energy GP, LLC	Delaware
* WNRL Energy, LLC	Delaware
* Wolverine Pipe Line Company	Delaware
* Woodhaven Cavern LLC	Delaware
York River Fuels, LLC	Delaware

* Indicates a company that is not wholly owned, directly or indirectly, by Marathon Petroleum Corporation.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-237861 and 333-237799) and Form S-8 (Nos. 333-255578, 333-248128, 333-227621, 333-212956, 333-181007, 333-175245 and 333-175244) of Marathon Petroleum Corporation of our report dated February 23, 2023 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Toledo, Ohio
February 23, 2023

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each of the undersigned officers and directors of Marathon Petroleum Corporation, a Delaware corporation, hereby constitutes and appoints Michael J. Hennigan, Maryann T. Mannen and C. Kristopher Hagedorn, and each of them, as his or her true and lawful attorney or attorneys-in-fact, with full power of substitution and revocation, for each of the undersigned and in the name, place, and stead of each of the undersigned, to sign on behalf of each of the undersigned an Annual Report on Form 10-K for the fiscal year ended December 31, 2022 pursuant to Section 13 of the Securities Exchange Act of 1934 and to sign any and all amendments to such Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith including, without limitation, a Form 12b-25 with the Securities and Exchange Commission, granting to said attorney or attorneys-in-fact, and each of them, full power and authority to do so and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that said attorney or attorneys-in-fact or any of them or their substitute or substitutes may lawfully do or cause to be done by virtue thereof.

This power of attorney may be executed in multiple counterparts, each of which shall be deemed an original with respect to the person executing it.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands as of the 23rd day of February 2023.

/s/ Michael J. Hennigan
Michael J. Hennigan
Director, President and Chief Executive Officer
(principal executive officer)

/s/ John P. Surma
John P. Surma
Chairman of the Board

/s/ Maryann T. Mannen
Maryann T. Mannen
Executive Vice President and Chief Financial Officer
(principal financial officer)

/s/ C. Kristopher Hagedorn
C. Kristopher Hagedorn
Senior Vice President and Controller
(principal accounting officer)

/s/ Abdulaziz F. Alkhayyal
Abdulaziz F. Alkhayyal
Director

/s/ Evan Bayh
Evan Bayh
Director

/s/ Charles E. Bunch
Charles E. Bunch
Director

/s/ Jonathan Z. Cohen
Jonathan Z. Cohen
Director

/s/ Edward G. Galante
Edward G. Galante
Director

/s/ Kim K.W. Rucker
Kim K.W. Rucker
Director

/s/ Frank M. Semple
Frank M. Semple
Director

/s/ J. Michael Stice
J. Michael Stice
Director

/s/ Susan Tomasky
Susan Tomasky
Director

Exhibit 31.1

MARATHON PETROLEUM CORPORATION

CERTIFICATION PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Michael J. Hennigan, certify that:

1. I have reviewed this report on Form 10-K of Marathon Petroleum Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2023

/s/ Michael J. Hennigan
Michael J. Hennigan
President and Chief Executive Officer

Exhibit 31.2

MARATHON PETROLEUM CORPORATION

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Maryann T. Mannen, certify that:

1. I have reviewed this report on Form 10-K of Marathon Petroleum Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 23, 2023

/s/ Maryann T. Mannen
Maryann T. Mannen
Executive Vice President and Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Marathon Petroleum Corporation (the “Company”) on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Michael J. Hennigan, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 23, 2023

/s/ Michael J. Hennigan

Michael J. Hennigan
President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Marathon Petroleum Corporation (the “Company”) on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Maryann T. Mannen, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 23, 2023

/s/ Maryann T. Mannen

Maryann T. Mannen
Executive Vice President and Chief Financial Officer