Section 1: 10-K (10-K)

Table of Contents

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, 2018

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	**27-1284632**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

539 South Main Street, Findlay, OH 45840-3229
(Address of principal executive offices)
(419) 422-2121
(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $.01	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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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. (Check one):

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 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, 2018 was approximately $31.9 billion. This amount is based on the closing price of the registrant's Common Stock on the New York Stock Exchange on June 29, 2018. 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 673,619,190 shares of Marathon Petroleum Corporation Common Stock outstanding as of February 15, 2019.

Documents Incorporated By Reference

Portions of the registrant's proxy statement relating to its 2019 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.

MARATHON PETROLEUM CORPORATION

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.

TABLE OF CONTENTS

GLOSSARY OF TERMS

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

ASC	Accounting Standards Codification
ANS	Alaskan North Slope crude oil, an oil index benchmark price
ASU	Accounting Standards Update
ASR	Accelerated share repurchase
ATB	Articulated tug barges
barrel	One stock tank barrel, or 42 United States gallons liquid volume, used in reference to crude oil or other liquid hydrocarbons.
bcf/d	One billion cubic feet per day
CARB	California Air Resources Board
CARBOB	California Reformulated Gasoline Blendstock for Oxygenate Blending
CBOB	Conventional Blending for Oxygenate Blending
DEI	Designated Environmental Incidents
EBITDA (a non-GAAP financial measure)	Earnings Before Interest, Tax, Depreciation and Amortization
EPA	United States Environmental Protection Agency
FASB	Financial Accounting Standards Board
GAAP	Accounting principles generally accepted in the United States
IDR	Incentive Distribution Right
LCM	Lower of cost or market
LIBO Rate	London Interbank Offered Rate
LIFO	Last in, first out
LLS	Louisiana Light Sweet crude oil, an oil index benchmark price
mbpd	Thousand barrels per day
mbpcd	Thousand barrels per calender day
Mcf	One thousand cubic feet of natural gas
mmbpcd	Million barrels per calender day
MMcf/d	One million cubic feet of natural gas per day
MMBtu	One million British thermal units per day
NYMEX	New York Mercantile Exchange
NYSE	New York Stock Exchange
NGL	Natural gas liquids, such as ethane, propane, butanes and natural gasoline
PADD	Petroleum Administration for Defense District
OPEC	Organization of Petroleum Exporting Countries
OSHA	United States Occupational Safety and Health Administration
OTC	Over-the-Counter
ppb	Parts per billion
ppm	Parts per million
RFS2	Revised Renewable Fuel Standard program, as required by the Energy Independence and Security Act of 2007
RIN	Renewable Identification Number
SEC	United States Securities and Exchange Commission
STAR	South Texas Asset Repositioning
TCJA	Tax Cuts and Jobs Act of 2017
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. You can identify our forward-looking statements by words such as "anticipate," "believe," "could," "design," "estimate," "expect," "forecast," "goal," "guidance," "imply," "intend," "may," "objective," "opportunity," "outlook," "plan," "position," "potential," "predict," "project," "prospective," "pursue," "seek," "should," "strategy," "target," "will," "would" or other similar expressions that convey the uncertainty of future events or outcomes. In accordance with "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, these statements are accompanied by cautionary language identifying important factors, though not necessarily all such factors, that could cause future outcomes to differ materially from those set forth in the forward-looking statements.

Forward-looking statements include, but are not limited to, statements that relate to, or statements that are subject to risks, contingencies or uncertainties that relate to:

- the risk that the cost savings and any other synergies from the Andeavor acquisition may not be fully realized or may take longer to realize than expected;
- disruption from the Andeavor acquisition making it more difficult to maintain relationships with customers, employees or suppliers;
- risks relating to any unforeseen liabilities of Andeavor;
- the potential merger, consolidation or combination of MPLX LP with Andeavor Logistics LP;
- future levels of revenues, refining and marketing margins, operating costs, retail gasoline and distillate margins, merchandise margins, income from operations, net income or earnings per share;
- the regional, national and worldwide availability and pricing of refined products, crude oil, natural gas, NGLs and other feedstocks;
- consumer demand for refined products;
- our ability to manage disruptions in credit markets or changes to our credit rating;
- future levels of capital, environmental or maintenance expenditures, general and administrative and other expenses;
- the success or timing of completion of ongoing or anticipated capital or maintenance projects;
- the reliability of processing units and other equipment;
- business strategies, growth opportunities and expected investments;
- share repurchase authorizations, including the timing and amounts of any common stock repurchases;
- the adequacy of our capital resources and liquidity, including but not limited to, availability of sufficient cash flow to execute our business plan and to effect any share repurchases or dividend increases, including within the expected timeframe;
- the effect of restructuring or reorganization of business components;
- the potential effects of judicial or other proceedings on our business, financial condition, results of operations and cash flows;
- continued or further volatility in and/or degradation of general economic, market, industry or business conditions;
- compliance with federal and state environmental, economic, health and safety, energy and other policies and regulations, including the cost of compliance with the Renewable Fuel Standard, and/or enforcement actions initiated thereunder; and
- the anticipated effects of actions of third parties such as competitors, activist investors or 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:

- volatility or degradation in general economic, market, industry or business conditions;
- availability and pricing of domestic and foreign supplies of natural gas, NGLs and crude oil and other feedstocks;
- the ability of the members of the OPEC to agree on and to influence crude oil price and production controls;
- availability and pricing of domestic and foreign supplies of refined products such as gasoline, diesel fuel, jet fuel, home heating oil and petrochemicals;

- foreign imports and exports of crude oil, refined products, natural gas and NGLs;
- 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 or other hydrocarbon-based products;
- changes in the cost or availability of third-party vessels, pipelines, railcars and other means of transportation for crude oil, natural gas, NGLs, feedstocks and refined products;
- changes to our capital budget, expected construction costs and timing of projects;
- the price, availability and acceptance of alternative fuels and alternative-fuel vehicles and laws mandating such fuels or vehicles;
- fluctuations in consumer demand for refined products, natural gas and NGLs, including seasonal fluctuations;
- political and economic conditions in nations that consume refined products, natural gas and NGLs, including the United States, and in crude oil producing regions, including the Middle East, Africa, Canada and South America;
- actions taken by our competitors, including pricing adjustments, expansion of retail activities, 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;
- failure to realize the benefits projected for capital projects, or cost overruns associated with such projects;
- modifications to MPLX and ANDX earnings and distribution growth objectives;
- the ability to successfully implement growth opportunities, including strategic initiatives and actions;
- risks and uncertainties associated with intangible assets, including any future goodwill or intangible assets impairment charges;
- the ability to realize the strategic benefits of joint venture opportunities;
- accidents or other unscheduled shutdowns affecting our refineries, machinery, pipelines, processing, fractionation and treating facilities or equipment, or those of our suppliers or customers;
- unusual weather conditions and natural disasters, which can unforeseeably affect the price or availability of crude oil and other feedstocks and refined products;
- 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 or refined products;
- state and federal environmental, economic, health and safety, energy and other policies and regulations, including the cost of compliance with the renewable fuel standard program;
- adverse changes in laws including with respect to tax and regulatory matters;
- rulings, judgments or settlements and related expenses in litigation or other legal, tax or regulatory matters, including unexpected environmental remediation costs, in excess of any reserves or insurance coverage;
- political pressure and influence of environmental groups 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;
- labor and material shortages;
- the maintenance of satisfactory relationships with labor unions and joint venture partners;
- the ability and willingness of parties with whom we have material relationships to perform their obligations to us;
- the market price of our common stock and its impact on our share repurchase authorizations;
- changes in the credit ratings assigned to our debt securities and trade credit, changes in the availability of unsecured credit, changes affecting the credit markets generally and our ability to manage such changes;
- capital market conditions and our ability to raise adequate capital to execute our business plan;
- the costs, disruption and diversion of management’s attention associated with campaigns commenced by activist investors; 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 131 years of experience in the energy business with roots tracing back to the formation of the Ohio Oil Company in 1887. We are a leading, integrated, downstream energy company headquartered in Findlay, Ohio. With the acquisition of Andeavor October 1, 2018 (as described further below), we are the largest independent petroleum product refining, marketing, retail and midstream business in the United States. We operate the nation's largest refining system with more than 3 million barrels per day of crude oil capacity across 16 refineries. MPC's marketing system includes branded locations across the United States. We also own and operate retail convenience stores across the United States. MPC's midstream operations are primarily conducted through MPLX LP ("MPLX") and Andeavor Logistics LP ("ANDX"), which own and operate crude oil and light product transportation and logistics infrastructure as well as gathering, processing and fractionation assets. We own the general partner and majority limited partner interests in these two midstream companies.

Our operations consist of three reportable operating segments: Refining & Marketing; Retail; 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 at our 16 refineries in the West Coast, Gulf Coast and Mid-Continent regions of the United States, purchases refined products and ethanol for resale and distributes refined products largely 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 our Retail business segment and to independent entrepreneurs who operate primarily Marathon® branded outlets.
- Retail – sells transportation fuels and convenience products in the retail market across the United States through company-owned and operated convenience stores, primarily under the Speedway brand, and 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 and ANDX, our sponsored master limited partnerships.

Andeavor Acquisition

On October 1, 2018, we completed the Andeavor acquisition. Under the terms of the merger agreement, Andeavor stockholders had the option to choose 1.87 shares of MPC common stock or $152.27 in cash per share of Andeavor common stock. The merger agreement included election proration provisions that resulted in approximately 22.9 million shares of Andeavor common stock being converted into cash consideration and the remaining 128.2 million shares of Andeavor common stock being converted into stock consideration. Andeavor stockholders received in the aggregate approximately 239.8 million shares of MPC common stock valued at $19.8 billion and approximately $3.5 billion in cash in connection with the Andeavor acquisition. Through the Andeavor acquisition, we acquired the general partner and 156 million common units of ANDX, which is a publicly traded master limited partnership ("MLP") that was formed to own, operate, develop and acquire logistics assets.

Andeavor was a highly integrated marketing, logistics and refining company operating primarily in the Western and Mid-Continent United States. Andeavor's operations included procuring crude oil from its source or from other third parties, transporting the crude oil to one of its 10 refineries, and producing, marketing and distributing refined products. Its marketing system included more than 3,300 stations marketed under multiple well-known fuel brands including ARCO®. Also, as noted above, we acquired the general partner and 156 million common units of ANDX, a leading growth-oriented, full service, and diversified midstream company which owns and operates networks of crude oil, refined products and natural gas pipelines, terminals with crude oil and refined products storage capacity, rail loading and offloading facilities, marine terminals including storage, bulk petroleum distribution facilities, a trucking fleet and natural gas processing and fractionation complexes.

This transaction combined two strong, complementary companies to create a leading nationwide U.S. downstream energy company. The acquisition substantially increases our geographic diversification and scale and strengthens each of our operating segments by diversifying our refining portfolio into attractive markets and increasing access to advantaged feedstocks, enhancing our midstream footprint in the Permian Basin, and creating a nationwide retail and marketing portfolio all of which is expected to substantially improve efficiencies and our ability to serve customers. We expect the combination to generate up to approximately $1.4 billion in gross run-rate synergies within the first three years, significantly enhancing our long-term cash flow generation profile.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on other acquisitions and investments in affiliates.

Transactions with MPLX

On February 1, 2018, we completed the dropdown of the remaining identified assets related to our strategic actions to enhance shareholder value announced in January 2017. We contributed our refining logistics assets and fuels distribution services to MPLX in exchange for $4.1 billion in cash and approximately 114 million newly issued MPLX common units. Immediately following the dropdown, our IDRs were cancelled and our economic general partner interest was converted into a non-economic general partner interest, all in exchange for 275 million newly issued MPLX common units. MPLX financed the cash portion of the February 1, 2018 dropdown with its $4.1 billion 364-day term loan facility, which was entered into on January 2, 2018. On February 8, 2018, MPLX issued $5.5 billion in aggregate principal amount of senior notes in a public offering. MPLX used $4.1 billion of the net proceeds of the offering to repay the 364-day term-loan facility. The remaining proceeds were used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with us and for general partnership purposes.

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 common stock on June 30, 2011. Our common stock trades on the NYSE under the ticker symbol "MPC."

MPLX is a diversified, large-cap publicly traded MLP formed by us in 2012 that owns and operates midstream energy infrastructure and logistics assets, and provides fuels distribution services. As of December 31, 2018, we owned the general partner and 63.6 percent of the outstanding MPLX common units.

ANDX is a publicly traded MLP that was formed in 2010 to own, operate, develop and acquire logistics assets. As of December 31, 2018, we owned the general partner and 63.6 percent of the outstanding ANDX common units.

OUR BUSINESS STRATEGIES

By following our core values, we aim to achieve our strategic vision outlined below.

Core Values and Operational Excellence

Our core values are the foundation for all we do and include the following:

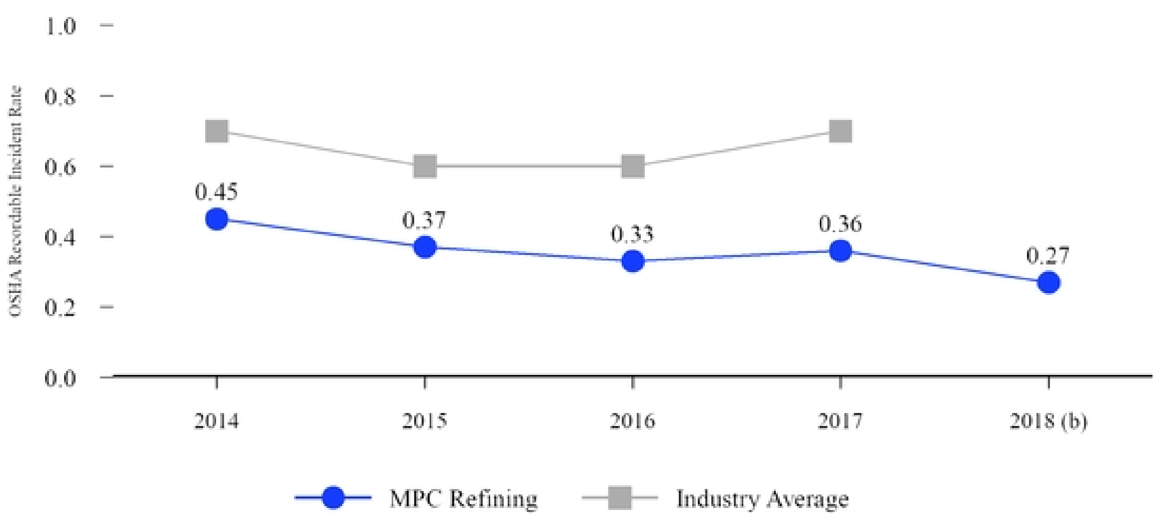
- *Health and Safety*: We have the highest regard for the health and safety of our employees, contractors and neighboring communities.
- *Environmental Stewardship*: We are committed to minimizing our environmental impact and continually look for ways to reduce our footprint.
- *Integrity*: We uphold the highest standards of business ethics and integrity, enforcing strict principles of corporate governance. We strive for transparency in all of our operations.
- *Corporate Citizenship*: We work to make a positive difference in the communities where we have the privilege to operate.
- *Inclusive Culture*: We value diversity and strive to provide our employees with a collaborative, supportive, and inclusive work environment where they can maximize their full potential for personal and business success.

Maintain Top-Tier Safety and Environmental Performance

We remain committed to operating our assets in a safe and reliable manner and targeting continual improvement in our safety and environmental record across our operations through the use of a rigorous, independently audited management system, RC14001®:2015. This management system integrates health, environmental stewardship, safety and security to ensure compliance and continual improvement. Six of our 16 refineries, the Marathon Pipeline organization and the Terminal, Transport and Rail organization are already certified to the RC14001 standard. We expect our natural gas gathering and processing operations will begin to seek RC14001 certification in 2020 and we have begun the process of integrating our newly acquired operations into the RC14004 management system.

As noted in the graph below, our Refining operations continue to demonstrate solid personal safety performance as compared to similar industry averages.

Safety Performance[a]



(a) Safety performance is based on the OSHA Recordable Incident Rate for the Refining industry. The industry average source is the Bureau of Labor Statistics and data is not yet available for 2018.

(b) Legacy Andeavor refineries included beginning full year 2018.

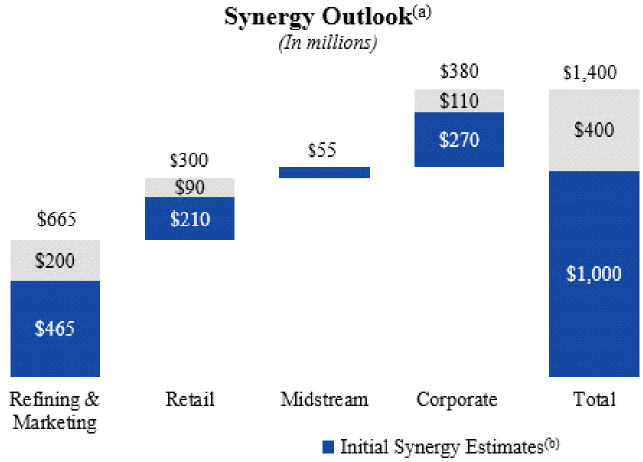
In addition, our corporate headquarters, four of our 16 refineries and 14 additional facilities have earned designations as an OSHA VPP Star site. This designation recognizes the outstanding efforts of employers and employees who have implemented effective safety and health management systems and achieved exemplary occupational safety and health performance. Three additional sites have completed their OSHA VPP inspections in 2018 and will be eligible for VPP status in 2019.

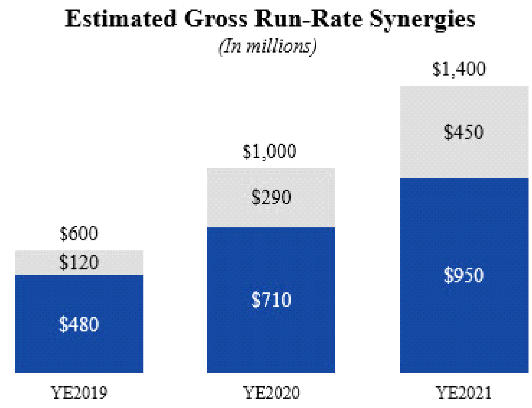
We proactively address our regulatory requirements and encourage our operations to continually improve their environmental performance through our DEI program, which establishes goals and measures performance. DEI is a metric adopted by MPC to capture several categories simultaneously. It includes three categories of environmental incidents: releases to the environment (air, land or water), environmental permit exceedances and agency enforcement actions. We rank DEIs in terms of their severity, with Tier 4 being the most severe, and Tier 1 being the least. We report and track these as a leading indicator that helps us to identify potential problems before they occur. We continually strive for improvements in our environmental performance. In 2018, we experienced 23 DEIs, a 62 percent reduction from 2013, and we have already begun to integrate our recently acquired operations into these programs.

In 2018, the EPA recognized Marathon Petroleum Corporation as an ENERGY STAR Partner of the Year, the only oil and gas company to receive such honor. This award recognized the significant energy efficiency gains achieved since we established our “Focus on Energy” program at our refineries nearly a decade ago. Through the implementation of this program, we have earned 75 percent of the total ENERGY STAR certifications awarded to the U.S. refining sector since 2006. Overall, we have realized considerable savings in energy costs and our energy efficiency efforts have enabled us to significantly lower our greenhouse gas intensity.

Capture Value and Leverage Integrated Business Model

With the acquisition of Andeavor on October 1, 2018, we believe the enhanced scale and integration of our midstream, retail and refining assets distinguishes us from our competitors. Our nationwide footprint enables connectivity to key supply sources and demand hubs. We have additional access to advantaged feedstocks and our expanded logistics system lowers crude acquisition costs, increases optionality, and increases our speed to market. Our broader market presence creates new product placement options and our nationwide marketing channels create even further optimization opportunities. With operations coast to coast, we intend to leverage and optimize the significant scale of our midstream, retail and refining assets to recognize up to approximately $1.4 billion of gross run-rate synergies by the end of 2021. Further information about our synergy outlook and estimated gross run-rate synergies are included below:





(a) Procurement synergies allocated 50/50 to Refining & Marketing and Corporate.
(b) Initial synergy estimates provided April 30, 2018.

Strategically Invest in Attractive Long-Term Growth Opportunities

We intend to allocate significant portions of our capital to investments focused on enhancing margins system wide with disciplined allocation to projects with superior returns.

Our Refining & Marketing segment projects are focused on refinery optimization, production of higher value products, increased capacity to upgrade residual fuel oil and expanded export capacity. Investing to enhance margins, we will continue our disciplined high-return investments in resid upgrading capacity and the ability to produce more diesel. We also plan to continue investing in domestic light products supply placement flexibility, as well as increasing our export capacity.

In our Retail segment, projects are focused on high value growth opportunities, real estate and store portfolio optimization and technology enhancements. Our plans include conversion of recently acquired locations to the Speedway brand and systems, growth in existing and new markets, dealer sites, commercial fueling/diesel expansion, food service through store remodels and high quality acquisitions.

In our Midstream segment, projects are focused on meeting market needs in the Permian, Marcellus and Utica basins as well as investments in export opportunities and long-haul pipelines. We plan to invest in gathering systems to create significant growth opportunities in the Permian Basin and in long-haul pipelines to generate stable, fee-based midstream income while helping to lower feedstock costs for our refineries. We also plan to expand our value chain by connecting growing natural gas production to demand from our refineries and global export markets and by connecting growing NGL production and developing new fractionation infrastructure in the Gulf Coast. Export facilities create the ability to generate third party revenue and meet global demand for crude, refined products and NGLs.

Focus on Disciplined Capital Allocation and Shareholder Returns

We intend to maintain our focus on a disciplined and balanced approach to capital allocation, including return of capital to shareholders, in a manner consistent with maintaining an investment-grade credit profile. Since becoming a stand-alone company in June 2011, our dividend has increased by a 24.9 percent compound annual growth rate and our board of directors has authorized share repurchases totaling $18.0 billion. Through open market purchases and two ASR programs, we have repurchased 293 million shares of our common stock for approximately $13.10 billion, representing approximately 41 percent of our outstanding common shares when we became a stand-alone company in June 2011. We achieved these shareholder returns while meaningfully investing in the business and maintaining an investment-grade credit profile. As of December 31, 2018, $4.90 billion of authorization remains available for future share repurchases.

Utilize and Enhance our High Quality Employee Workforce

We utilize our high quality employee workforce by continuously leveraging their commercial skills and business acumen. In addition, we continue to enhance our workforce through active recruitment of the best candidates, including those from diverse backgrounds, and effective training programs on safety, environmental stewardship, diversity and inclusion and other professional and technical skills.

OUR OPERATIONS

Our operations consist of three reportable operating segments: Refining & Marketing; Retail; and Midstream.

REFINING & MARKETING

Refineries

We currently own and operate 16 refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States with an aggregate crude oil refining capacity of 3,021 mbpcd. On October 1, 2018, we acquired 10 refineries as part of the Andeavor acquisition which added approximately 1,117 mbpcd to our total capacity. During 2018, our refineries processed 2,081 mbpd of crude oil and 193 mbpd of other charge and blendstocks. During 2017, our refineries processed 1,765 mbpd of crude oil and 179 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, 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 aromatics, propane, propylene and sulfur. 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. For example, naphtha may be moved from Galveston Bay to Robinson where excess reforming capacity is available. 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 (1,149 mbpcd)

Galveston Bay, Texas City, Texas Refinery (585 mbpcd). Our Galveston Bay refinery is a world-class refining complex resulting from the combination of our former Texas City refinery and Galveston Bay refinery, which we acquired on February 1, 2013. The refinery is located on the Texas Gulf Coast approximately 30 miles southeast of Houston, Texas and can process a wide variety of crude oils into gasoline, distillates, aromatics, heavy fuel oil, dry gas, fuel-grade coke, refinery-grade propylene, chemical-grade propylene and sulfur. 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 45 percent of the power generated in 2018 was used at the refinery, with the remaining electricity being sold into the electricity grid.

Garyville, Louisiana Refinery (564 mbpcd). Our Garyville, Louisiana refinery 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, fuel-grade coke, asphalt, polymer-grade propylene, propane, refinery-grade propylene, dry gas, slurry and sulfur. The refinery has access to the export market and multiple options to sell refined products. A major expansion project was completed in 2009 that increased Garyville’s crude oil refining capacity, making it one of the largest refineries in the U.S. Our Garyville refinery has earned designation as an OSHA VPP Star site.

Mid-Continent Region (1,161 mbpcd)

Catlettsburg, Kentucky Refinery (277 mbpcd). Our Catlettsburg, Kentucky 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 into gasoline, distillates, asphalt, aromatics, heavy fuel oil and propane. In the second quarter of 2015, we completed construction of a condensate splitter at our Catlettsburg refinery, which increased our capacity to process condensate from the Utica shale region.

Robinson, Illinois Refinery (245 mbpcd). Our Robinson, Illinois refinery is located in southeastern Illinois. The Robinson refinery processes sweet and sour crude oils into gasoline, distillates, propane, anode-grade coke, fuel-grade coke and aromatics. The Robinson refinery has earned designation as an OSHA VPP Star site.

Detroit, Michigan Refinery (140 mbpcd). Our Detroit, Michigan 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, fuel-grade coke, chemical-grade propylene, propane and slurry. Our Detroit refinery earned designation as an OSHA VPP Star site. In the fourth quarter of 2012, we completed a heavy oil upgrading and expansion project that enabled the refinery to process up to an additional 80 mbpd of heavy sour crude oils, including Canadian crude oils.

El Paso, Texas Refinery (131 mbpcd). Our El Paso Refinery is located approximately three miles east of downtown El Paso, Texas. The El Paso refinery processes sweet and sour crudes into gasoline, distillates, heavy fuel oil, asphalt and propane. The refinery has access to the Permian Basin shale region.

St. Paul Park, Minnesota Refinery (98 mbpcd). Our St. Paul Park Refinery is located along the Mississippi River southeast of St. Paul Park, Minnesota and was originally built in 1939. The St. Paul Park refinery primarily processes sweet crude from the Bakken region in North Dakota as well as various grades of Canadian sweet and heavy sour crude and manufactures gasoline, distillates, asphalt, heavy fuel oil, propane and refinery-grade propylene.

Canton, Ohio Refinery (93 mbpcd). Our Canton, Ohio refinery is located approximately 60 miles south of Cleveland, Ohio. The Canton refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, roofing flux, propane, refinery-grade propylene and slurry. In December 2014, we completed construction of a condensate splitter at our Canton refinery, which increased our capacity to process condensate from the Utica shale region. The Canton refinery has earned designation as an OSHA VPP Star site.

Mandan, North Dakota Refinery (71 mbpcd). Our Mandan Refinery began operations in 1954. The Mandan refinery processes primarily sweet domestic crude oil from North Dakota and manufactures gasoline, distillates, propane and heavy fuel oil.

Salt Lake City, Utah Refinery (61 mbpcd). Our Salt Lake City Refinery began operations in 1908 and is now the largest in Utah. The Salt Lake City refinery processes crude oil from Utah, Colorado, Wyoming and Canada to manufacture gasoline, distillates, propane and heavy fuel oil.

Gallup, New Mexico Refinery (26 mbpcd). Our Gallup Refinery is located near Gallup, New Mexico and is the only active refinery in the Four Corners area. The Gallup refinery primarily processes high-quality crude known as Four Corners Sweet into gasoline, distillate, heavy fuel oil and propane.

Dickinson, North Dakota Refinery (19 mbpcd). Our Dickinson Refinery is located four miles west of Dickinson, North Dakota and is the first refinery in the U.S. to be built in over 30 years. The Dickinson refinery primarily processes domestic crude oil from North Dakota and manufactures ultra-low sulfur diesel and gasoline blendstocks. We plan to convert this refinery into a 12 mbpcd, 100 percent renewable diesel facility that will process refined soy oil and other organically derived feedstocks by December 2020.

West Coast Region (711 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 clean 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 cleaner-burning CARB gasoline and CARB diesel fuel, as well as conventional gasoline, distillates, petroleum coke, anode-grade coke, chemical-grade propylene, fuel-grade coke, heavy fuel oil and propane.

Martinez, California Refinery (161 mbpcd). Our Martinez Refinery is located in Martinez, California. The Martinez refinery processes crude oils from California and other domestic and foreign sources and manufactures cleaner-burning CARB gasoline and CARB diesel fuel, as well as conventional gasoline and distillates, petroleum coke, propane, heavy fuel oil and refinery-grade propylene.

Anacortes, Washington Refinery (119 mbpcd). Our Anacortes Refinery is located about 70 miles north of Seattle on Puget Sound. The Anacortes refinery processes Canadian crude, domestic crude from North Dakota and Alaska North Slope and international crudes to manufacture gasoline, distillates, heavy fuel oil and propane.

Kenai, Alaska Refinery (68 mbpcd). Our Kenai Refinery is located on the Cook Inlet, 60 miles southwest of Anchorage. The Kenai refinery processes mainly Alaska domestic crude along with limited international crude and manufactures gasoline, distillates, heavy fuel oil, asphalt and propane.

Planned maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for additional detail.

Refined Product Yields

The following table sets forth our refinery production by product group for each of the last three years including production from the refineries acquired in the Andeavor acquisition from October 1, 2018 forward.

(mbpd)	2018	2017	2016
Gasoline	1,107	932	900
Distillates	773	641	617
Propane	41	36	35
Feedstocks and petrochemicals	288	277	241
Heavy fuel oil	38	37	32
Asphalt	69	63	58
Total	2,316	1,986	1,883

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 and includes production from the refineries acquired in the Andeavor acquisition from October 1, 2018 forward. The crude oil sourced outside of North America was acquired from various foreign national oil companies, production companies and trading companies.

(mbpd)	2018	2017	2016
United States	1,319	999	986
Canada	297	381	326
Middle East and other international	465	385	387
Total	2,081	1,765	1,699

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

We currently own a biofuel production facility in Cincinnati, Ohio that produces biodiesel, glycerin and other by-products. The capacity of the plant is approximately 80 million gallons per year.

We hold ownership interests in ethanol production facilities in Albion, Michigan; Clymers, Indiana and Greenville, Ohio. These plants have a combined ethanol production capacity of approximately 410 million gallons per year (27 mbpd) and are managed by a co-owner.

Refined Product Marketing

Our refined products are primarily sold to independent retailers, wholesale customers, our brand jobbers, our Retail segment, airlines, transportation companies and utilities. Our Brand footprint expanded by approximately 1,100 branded outlets in the Western and Mid-Continental regions of the U.S. and Mexico through the Andeavor acquisition. As of December 31, 2018, there were 6,813 branded outlets in 35 states, the District of Columbia and Mexico where independent entrepreneurs primarily maintain Marathon-branded outlets. We believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers and consumers within our 41-state market area.

The following table sets forth our refined product sales volumes by product group for each of the last three years including sales from the refineries acquired in the Andeavor acquisition from October 1, 2018 forward.

(mbpd)	2018	2017	2016
Gasoline	1,416	1,201	1,219
Distillates	847	691	676
Propane	44	37	35
Feedstocks and petrochemicals	289	265	231
Heavy fuel oil	37	39	35
Asphalt	70	68	63
Total	2,703	2,301	2,259

Refined Product Sales Destined for Export

We sell gasoline, distillates and asphalt for export, primarily out of our Garyville, Galveston Bay, Anacortes, Martinez, Los Angeles and Kenai refineries. The following table sets forth our refined product sales destined for export by product group for the past three years including sales from the refineries acquired in the Andeavor acquisition from October 1, 2018 forward.

(mbpd)	2018	2017	2016
Gasoline	117	96	91
Distillates	193	192	199
Asphalt and other	24	9	6
Total	334	297	296

Gasoline and Distillates. We sell gasoline, gasoline blendstocks and distillates (including No. 1 and No. 2 fuel oils, jet fuel, kerosene and diesel fuel) to wholesale customers, Marathon-branded independent entrepreneurs, our Retail segment, and on 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.

Propane. We produce propane at all of our refineries except Dickinson. 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 60 percent and 40 percent between the home heating market and petrochemical consumers, respectively.

Feedstocks and Petrochemicals. We are a producer and marketer of feedstocks and petrochemicals. Product availability varies by refinery and includes naptha, raffinate, benzene, butane, alkylate, dry gas, xylene, propylene, cumene, platformate and toluene. 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.

Heavy Fuel Oil. We produce and market heavy residual fuel oil or related components, including slurry, at all of our refineries except Dickinson. 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.

Asphalt. We have refinery-based asphalt production capacity of up to 136 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, 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.

Terminals and Transportation

We transport, store and distribute crude oil, feedstocks and refined products through pipelines, terminals and marine fleets owned by MPLX, ANDX 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. Based upon the "The Oil & Gas Journal 2018 Worldwide Refinery Survey," we ranked first among U.S. petroleum companies on the basis of U.S. crude oil refining capacity.

We compete in four distinct markets for the sale of refined products—wholesale, 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 LLS crude oils and other market structure differentials 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.

RETAIL

Our Retail segment sells gasoline, diesel and merchandise through convenience stores that it owns and operates, primarily under the Speedway brand, as well as through direct dealer locations. Our company-owned and operated convenience stores offer a wide variety of merchandise, including prepared foods, beverages and non-food items. Speedway's Speedy Rewards® loyalty program has been a highly successful loyalty program since its inception in 2004, with a consistently growing base which averaged approximately 6.2 million active members in 2018. Speedway's ability to capture and analyze member-specific transactional data enables us to offer Speedy Rewards® members discounts and promotions specific to their buying behavior. We believe Speedy Rewards® is a key reason customers choose Speedway over competitors and it continues to drive significant value for both Speedway and our Speedy Rewards® members.

As of December 31, 2018, our Retail segment had 3,923 company-owned and operated convenience stores across the United States. We acquired approximately 1,100 company-owned and operated retail convenience stores and fuel only locations as part of the Andeavor acquisition in the Western and Mid-Continental regions of the United States. In addition, we acquired long-term supply contracts for 1,065 direct dealer locations primarily in Southern California, largely under the ARCO® brand, which are also included in our Retail segment.

Speedway also owns a 29 percent interest in PFJ Southeast LLC ("PFJ Southeast"), which is a joint venture between Speedway and Pilot Flying J with 127 travel center locations primarily in the Southeast United States as of December 31, 2018. We also own SuperMom's®, a high-quality bakery and commissary.

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

Competition, Market Conditions and Seasonality

We face strong competition for sales of retail gasoline, diesel fuel and merchandise. Our competitors include service stations and convenience stores operated by fully integrated major oil companies, independent entrepreneurs and other well-recognized national or regional convenience stores and travel centers, often selling gasoline, diesel fuel and merchandise at competitive prices. Non-traditional retailers, such as supermarkets, club stores and mass merchants, have affected the convenience store industry with their entrance into sales of retail gasoline and diesel fuel. Energy Analysts International, Inc. estimated such retailers had approximately 16 percent of the U.S. gasoline market in mid-2018.

Demand for gasoline and diesel fuel 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. As a result, the operating results for our Retail segment for the first and fourth quarters may be lower than for those in the second and third quarters of each calendar year. Margins from the sale of merchandise tend to be less volatile than margins from the retail sale of gasoline and diesel fuel.

MIDSTREAM

The Midstream segment primarily includes the operations of MPLX and ANDX, our sponsored master limited partnerships, which transport, store, distribute and market crude oil and refined products principally for the Refining & Marketing segment via refining logistics assets, pipelines, terminals, towboats and barges; gather, process and transport natural gas; and gather, transport, fractionate, store and market NGLs. The Midstream segment also includes certain related operations retained by MPC.

MPLX

MPLX owns and operates a network of crude oil, natural gas and product pipelines and has joint ownership interests in other crude oil and products pipelines. MPLX also owns and operates light products terminals, storage assets and maintains a fleet of owned and leased towboats and barges. MPLX's assets also include natural gas gathering complexes, natural gas processing complexes and NGL fractionation complexes. On February 1, 2018, we contributed our refining logistics assets to MPLX, which include rail and truck loading racks and docks.

ANDX

ANDX owns and operates a network of crude oil, natural gas, product and water pipelines and has joint ownership interests in other crude oil and natural gas pipelines. ANDX owns and operates light products, asphalt and crude terminals, storage assets and barge docks. ANDX's assets also include natural gas gathering complexes, natural gas processing complexes and NGL fractionation complexes.

MPC-Retained Midstream Assets and Investments

We retained ownership interests in several crude oil and products pipeline systems and pipeline companies and have indirect ownership interests in two ocean vessel joint ventures with Crowley through our investment in 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 and fractionation; and in marketing our products and services. Competition for natural gas supplies is based primarily on the location of gas gathering facilities and gas processing plants, operating efficiency and reliability and the ability to obtain a satisfactory price for products recovered. Competitive factors affecting our fractionation services include availability of capacity, proximity to supply and industry marketing centers and cost efficiency and reliability of service. Competition for customers to purchase our natural gas and NGLs is based primarily on price, delivery capabilities, flexibility and maintenance of high-quality customer relationships. In addition, certain of our Midstream operations are highly regulated, 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.

ENVIRONMENTAL MATTERS

Our management is responsible for ensuring that our operating organizations maintain environmental compliance systems that support and foster our compliance with applicable laws and regulations, and for reviewing our overall environmental performance. We also have a Corporate Emergency Response Team that oversees our response to any major environmental or other emergency incident involving us or any of our facilities.

We believe it is likely that the scientific and political attention to issues concerning the extent and causes of climate change will continue, with the potential for further regulations that could affect our operations. Currently, legislative and regulatory measures to address greenhouse gases are in various phases of review, discussion or implementation. The cost to comply with these laws and regulations cannot be estimated at this time, but could be significant. For additional information, see Item 1A. Risk Factors. We estimate and publicly report greenhouse gas emissions from our operations and products. Additionally, we continuously strive to improve operational and energy efficiencies through resource and energy conservation where practicable.

Our operations are subject to numerous other laws and regulations 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.

Air

Greenhouse Gas Emissions

We are subject to many requirements in connection with air emissions from our operations. Internationally and domestically, emphasis has been placed on reducing greenhouse gas emissions. In 2018, the Trump Administration continued its shift in climate-related policy away from the Obama Administration's policies. One of the major policy shifts is related to the administration's efforts to repeal and replace the "Clean Power Plan." On August 21, 2018, the U.S. Environmental Protection Agency ("EPA") proposed the Affordable Clean Energy ("ACE") rule, which would establish emission guidelines for states to develop plans to address greenhouse gas emissions from existing coal-fired power plants. The ACE rule would replace the 2015 Clean Power Plan, which had been stayed by the U.S. Supreme Court. President Trump also announced the United States' intention to withdraw from the 2015 Paris UN Climate Change Conference Agreement, which aims to hold the increase in the global average temperature to well below two degrees Celsius as compared to pre-industrial levels. Many of the policies and regulations rescinded through Executive Order 13783 had been adopted to meet the United States' pledge under the Agreement. The U.S. climate change strategy and implementation of that strategy through legislation and regulation may change under future administrations; therefore, the impact to our industry and operations due to greenhouse gas regulation is unknown at this time.

In 2009, the EPA issued an "endangerment finding" that greenhouse gas emissions contribute to air pollution that endangers public health and welfare. Related to the endangerment finding, in April 2010, the EPA finalized a greenhouse gas emission standard for mobile sources (cars and other light duty vehicles). The endangerment finding, the mobile source standard and the EPA's determination that greenhouse gases are subject to regulation under the Clean Air Act resulted in permitting of greenhouse gas emissions at stationary sources. Through a series of legal challenges filed against the EPA, the requirement to control greenhouse gas emissions through Best Available Control Technology has been limited to new and modified large stationary sources, such as refineries, that will also emit a criteria pollutant. Implementing Best Available Control Technology may result in increased costs to our operations.

In the absence of federal legislation or regulation of greenhouse gas emissions, states are becoming more active in regulating greenhouse gas emissions. These measures may include state actions to develop statewide or regional programs to 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, in California, the state legislature adopted SB 32 in 2016. SB 32 set a cap on emissions of 40% below 1990 levels by 2030 but did not establish a particular mechanism to achieve that target. The legislature also adopted a companion bill, AB 197, that most significantly directs the CARB to prioritize direct emission reductions on large stationary sources. In 2017, the state legislature adopted AB 398 which provides direction and parameters on utilizing cap and trade after 2020 to meet the 40% reduction target from 1990 levels by 2030 specified in SB 32. Compliance with the cap and trade program is demonstrated through a market-based credit system. The compliance costs associated with these California regulations are ultimately passed on to the consumer in the form of higher fuel costs. We cannot currently predict the impact of these regulations on our liquidity, financial position, or results of operations, but we do not believe such impact will be material.

We could also face increased climate-related litigation with respect to our operations or products. Private party litigation seeking damages and injunctive relief is pending against MPC and other oil and gas companies in multiple jurisdictions. Although uncertain, these actions could increase our costs of operations or reduce the demand for the refined products we produce, transport, store and sell.

Private parties have also sued federal and certain state governmental entities seeking additional greenhouse gas emission reductions beyond those currently being undertaken. In sum, requiring reductions in greenhouse gas 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 greenhouse gas emissions programs, including acquiring emission credits or allotments. These requirements may also significantly affect MPC's refinery operations and may have an indirect effect on our business, financial condition and results of operations. The extent and magnitude of the impact from greenhouse gas regulation or legislation cannot be reasonably estimated due to the uncertainty regarding the additional measures and how they will be implemented.

Regardless of whether legislation or regulation is enacted, given the continuing global demand for oil and gas - even under different hypothetical carbon-constrained scenarios - MPC has taken actions that have resulted in lower greenhouse gas emission intensity and we are positioned to remain a successful company well into the future. We have instituted a program to improve energy efficiency of our refineries and other assets which will continue to pay dividends in reducing our environmental footprint as well as making us more cost-competitive. We believe our mature governance and risk-management processes enable the company to effectively monitor and adjust to any transitional, reputational or physical climate-related risks.

Clean Air Act

In 2015, the EPA finalized a revision to the National Ambient Air Quality Standards ("NAAQS") for ozone. The EPA lowered the primary ozone NAAQS from 75 ppb to 70 ppb. This revision initiated a multi-year process in which nonattainment designations will be made based on more recent ozone measurements that includes data from 2016. On November 6, 2017, the EPA finalized ozone attainment/unclassifiable designations for certain areas under the new standard. In actions dated April 30, 2018, and July 25, 2018, the EPA finalized nonattainment designations for certain areas under the lower primary ozone standard. In some areas, these nonattainment designations could result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities. For areas designated nonattainment, states will be required to adopt State Implementation Plans ("SIPs") for nonattainment areas. These SIPs may include NOx and/or volatile organic compound ("VOC") reductions that could result in increased costs to our facilities. We cannot predict the effects of the various SIPs requirements at this time.

In California, the Board for the South Coast Air Quality Management District ("SCAQMD") passed amendments to the Regional Clean Air Incentives Market ("RECLAIM") that became effective in 2016, requiring a staged reduction of nitrogen oxide emissions through 2022. In 2017, the State of California passed AB 617, which requires each air district that is a nonattainment area for one or more air pollutants to adopt an expedited schedule for implementation of best available retrofit control technology ("BARCT") on specific facilities. BARCT applies to all facilities subject to RECLAIM. In response to AB 617, the SCAQMD is currently working to "sunset" the existing RECLAIM program and replace it with applicable BARCT regulations.

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.

Additionally, OPA-90 requires that new tank vessels entering or operating in U.S. waters be double-hulled and that existing tank vessels that are not double-hulled be retrofitted or removed from U.S. service. All barges used for river transport of our raw materials and refined products meet the double-hulled requirements of OPA-90. 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.

In June 2015, the EPA and the United States Army Corps of Engineers finalized significant changes to the definition of the term "waters of the United States" used in numerous programs under the CWA. This final rulemaking is referred to as the Clean Water Rule. The Clean Water Rule, as written, expands permitting, planning and reporting obligations and may extend the timing to secure permits for pipeline and fixed asset construction and maintenance activities. The Clean Water Rule has been challenged in multiple federal courts by many states, trade groups, and other interested parties, and in October 2015, a United States Court of Appeals issued a nationwide stay of the Clean Water Rule. On appeal, however, the Supreme Court determined that the court of appeals did not have original jurisdiction to review challenges to the 2015 Rule. As such, legal challenges to the rule will proceed in federal district courts. Three federal district courts have stayed the Clean Water Rule in twenty-eight states. Concurrent with the legal challenges, on February 28, 2017, President Trump signed Executive Order 13778, directing the EPA and the Army Corps of Engineers to review the 2015 Rule for consistency with the policy outlined in the Order, and to issue a proposed rule rescinding or revising the 2015 Rule as appropriate and consistent with law. On December 11, 2018, the

EPA and the Army Corps of Engineers announced its proposed new definition of “waters of the United States.” The proposal, once finalized, would replace the 2015 Clean Water Rule.

In 2015, the EPA issued its intent to review the CWA categorical effluent limitation guidelines (“ELG”) for the petroleum refining sector. During 2017, the EPA prepared and issued an information request (“ICR”) requesting significant wastewater and treatment process details from select refineries, seven of which were ours. Responses to the ICR were submitted to the EPA in early 2018. As of late 2018, the EPA is in the process of reviewing the ICR response data submitted and determining the next steps for the ELG review. EPA may also perform sampling of effluent at one or more of our refineries. The EPA has indicated they believe there have been significant changes in the characteristics of waste waters generated within refining operations that warrant the review. Specific targets for the review are the impacts of processing heavier crude oils and the transfer of air pollutants to wastewater when air pollution abatement devices are in use. A similar project, initiated in 2007 for steam electric power generation with similar attributes, resulted in a significant change in the treatment requirements for coal-fired power plants. However, on September 18, 2017, the EPA postponed certain compliance dates while it conducts a rulemaking to revise the ELGs for power plants. The refining sector ELG review has the potential to result in a similar impact. The typical life-cycle for an ELG review from the intent to review to issuance of a final rule that would require upgrades is seven years. The impact of an ELG review cannot be accurately estimated at this time.

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.

Pursuant to an order received in 2004 from the San Francisco Bay Regional Water Quality Control Board, we are performing remediation of certain waste management units and completing investigations of the design conditions of certain active wastewater and storm water impoundments at our Martinez refinery. The investigative and remedial costs associated with the 2004 Order could have a material impact on our results of operations. The costs that are estimable and probable at this time have been accrued.

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 stringency of 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.

Mileage Standards, Renewable Fuels and Other Fuels Requirements

The U.S. Congress passed the Energy Independence and Security Act of 2007 (“EISA”), which, among other things, set a target of 35 miles per gallon for the combined fleet of cars and light trucks in the United States by model year 2020, and contains the RFS2. In August 2012, the EPA and the National Highway Traffic Safety Administration (“NHTSA”) jointly adopted regulations that establish average industry fleet fuel economy standards for passenger cars and light trucks of up to 41 miles per gallon by model year 2021 and average fleet fuel economy standards of up to 49.7 miles per gallon by model year 2025. In 2018, the EPA and the NHTSA jointly proposed the Safer Affordable Fuel-Efficient Vehicles Rules for Model Years 2021-2026, which would propose new Corporate Average Fuel Economy (“CAFE”) standards for model years 2022 through 2026, amend the 2021 model year CAFE standards, amend the EPA’s carbon dioxide emission standards for model years 2021 through 2025, and establish new carbon dioxide emission standards for model year 2026. The EPA’s preferred alternative is to retain the model year 2020 standards for both programs through model year 2026. The standards established by the final regulation may differ. Additionally, California may establish per its Clean Air Act waiver authority different standards that could apply in multiple states. Higher CAFE standards for cars and light trucks have the potential to reduce demand for our transportation fuels. New or alternative transportation fuels such as compressed natural gas could also pose a competitive threat to our operations.

The RFS2 requires the total volume of renewable transportation fuels sold or introduced annually in the U.S. to reach 26.0 billion gallons in 2018, 28.0 billion gallons in 2019, and increase to 36.0 billion gallons by 2022. Within the total volume of renewable fuel, EISA established an advanced biofuel volume of 11.0 billion gallons in 2018, 13.0 billion gallons in 2019, and increasing to 21.0 billion gallons in 2022. Subsets within the advanced biofuel volume include biomass-based diesel, which was set as at least 1.0 billion gallons in 2014 through 2022 (to be determined by the EPA through rulemaking), and cellulosic biofuel, which was set at 7.0 billion gallons in 2018, 8.5 billion gallons in 2019, and increasing to 16.0 billion gallons in 2022.

On November 30, 2015, the EPA finalized the renewable fuel standards for the years of 2014, 2015 and 2016 as well as the biomass-based diesel standard for 2017. In a legal challenge to the 2014-2016 volumes, the court vacated the total renewable volume for 2016 and remanded to the EPA for reconsideration consistent with the court's opinion. A remanded rule that increases the 2016 total renewable volume could increase our cost of compliance with the Renewable Fuel Standards and be detrimental to the RIN market. The 2017 and 2018 RFS volumes have also been challenged in court.

On November 30, 2018, the EPA finalized RFS volume requirements for the year 2019, and the biomass-based diesel volume requirement for year 2020. The EPA used its cellulosic waiver authority to reduce the volumes for 2019 from the statutory amounts to the following: 19.92 billion gallons total renewable fuel; 4.92 billion gallons advanced biofuel; and 418 million gallons cellulosic biofuel. The EPA set the biomass-based diesel volume requirement for 2020 at 2.43 billion gallons, which is significantly greater than the statutory floor of 1.0 billion gallons.

The RFS2 is satisfied primarily with ethanol blended into gasoline. Vehicle, regulatory and infrastructure constraints limit the blending of significantly more than 10 percent ethanol into gasoline ("E10"). Since 2016, the volume requirements have resulted in the ethanol content of gasoline exceeding the E10 blendwall, which will require obligated parties to either sell E15 or ethanol flex fuel at levels that exceed historical levels or retire carryover RINs.

We have made investments in infrastructure capable of expanding biodiesel blending capability to help comply with the annually-increasing biodiesel RFS2 requirement by buying and blending biodiesel into our refined diesel product, and by buying needed biodiesel RINs in the EPA-created biodiesel RINs market. On April 1, 2014, we purchased a facility in Cincinnati, Ohio, which currently produces biodiesel, glycerin and other by-products. As a producer of biodiesel, we generate RINs, thereby reducing our reliance on the external RIN market.

In November 2017, the EPA finalized its decision to deny petitions requesting that the point of obligation for the RFS2 be moved to the terminal rack. The EPA's final decision was challenged in court and should the court decide that EPA's decision was incorrect and move the point of obligation, we could be subject to increased costs and compliance uncertainties.

In addition to 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 Low Carbon Fuel Standard ("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.

In sum, the RFS2 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.

On March 3, 2014, the EPA signed the final Tier 3 fuel standards. The final Tier 3 fuel standards require, among other things, a lower annual average sulfur level in gasoline to no more than 10 ppm beginning in calendar year 2017. In addition, gasoline refiners and importers may not exceed a maximum per-gallon sulfur standard of 80 ppm while retailers may not exceed a maximum per-gallon sulfur standard of 95 ppm. From 2014 through 2018, we made approximately $490 million in capital expenditures to comply with these standards, and expect to make approximately $260 million in capital expenditures for these standards in 2019.

Tribal Lands

Various federal agencies, including the 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. For example, the EPA has established a preconstruction permitting program for new and modified minor sources throughout Indian country, and new and modified major sources in nonattainment areas in Indian country. 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 trademark is material to the conduct of our refining and marketing operations, and our Speedway and ARCO trademarks are material to the conduct of our retail operations. Additionally, the retail and marketing businesses we acquired in the Andeavor acquisition primarily use the Shell® and Mobil® brands for fuel sales and ampm® and Giant® brands for convenience store merchandise. 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.

EMPLOYEES

We had approximately 60,350 regular full-time and part-time employees as of December 31, 2018, which includes approximately 40,230 employees of our Retail segment.

Approximately 4,780 of our employees are covered by collective bargaining agreements. Of these employees, approximately 1,465 employees at our Galveston Bay, Mandan and Martinez refineries are covered by collective bargaining agreements which were set to expire on January 31, 2019. The parties continue their negotiations toward a new agreement, and are working under rolling extensions. Approximately 425 employees at our Martinez Chemical Plant, our Los Angeles refinery and our Galveston Bay refinery are covered by collective bargaining agreements expiring over the next several months. Approximately 410 hourly employees at Speedway are represented under collective bargaining agreements. The majority of these employees work at certain retail locations in New York and New Jersey under agreements which expire on March 14, 2019 and June 30, 2019, respectively. The remaining Speedway represented employees are drivers in Minnesota under an agreement which expires in 2021. Approximately 300 employees at our St. Paul Park and Gallup refineries are covered by collective bargaining agreements scheduled to expire in 2020. Approximately 1,620 employees at our Anacortes, Canton, Catlettsburg, Los Angeles, and Salt Lake City refineries are covered by collective bargaining agreements that are due to expire in 2022. The remaining 560 hourly represented employees are covered by collective bargaining agreements with expiration dates ranging from 2021 to 2024.

Executive and Corporate Officers of the Registrant

The executive and corporate officers of MPC are as follows:

Name	Age as of February 1, 2019	Position with MPC
Gary R. Heminger	65	Chairman and Chief Executive Officer
Gregory J. Goff	62	Executive Vice Chairman
Molly R. Benson[(a)]	52	Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary
Raymond L. Brooks	58	Executive Vice President, Refining
C. Tracy Case[(a)]	58	Senior Vice President, Western Refining Operations
Suzanne Gagle	53	General Counsel
Timothy T. Griffith	49	Senior Vice President and Chief Financial Officer
David R. Heppner[(a)]	52	Vice President, Commercial and Business Development
Richard A. Hernandez[(a)]	59	Senior Vice President, Eastern Refining Operations
Rick D. Hessling[(a)]	52	Senior Vice President, Crude Oil Supply and Logistics
Thomas Kaczynski	57	Vice President, Finance and Treasurer
Kristina A. Kazarian[(a)]	36	Vice President, Investor Relations
Anthony R. Kenney	65	President, Speedway LLC
Fiona C. Laird[(a)]	57	Chief Human Resources Officer
D. Rick Linhardt[(a)]	60	Vice President, Tax
Brian K. Partee[(a)]	45	Senior Vice President, Marketing
Glenn M. Plumby[(a)]	59	Senior Vice President and Chief Operating Officer, Speedway LLC
John J. Quaid	47	Vice President and Controller
David R. Sauber[(a)]	55	Senior Vice President, Labor Relations, Operations, Health and Administrative Services
Donald C. Templin	55	President, Refining, Marketing and Supply
Karma M. Thomson[(a)]	51	Vice President, Corporate Affairs
Donald W. Wehrly[(a)]	59	Vice President and Chief Information Officer
David L. Whikehart[(a)]	59	Senior Vice President, Light Products, Supply and Logistics
James R. Wilkins[(a)]	52	Vice President, Environment, Safety and Security

(a) Corporate officer.

Mr. Heminger is Chairman of the Board and Chief Executive Officer. He has served as the Chairman of the Board since April 2016 and as Chief Executive Officer since June 2011. Mr. Heminger also served as President from July 2011 until June 2017.

Mr. Goff was appointed Executive Vice Chairman effective October 2018. Prior to this appointment, Mr. Goff was President and Chief Executive Officer of Andeavor beginning in May 2010 and Chairman of its Board of Directors beginning in December 2014.

Ms. Benson was appointed Vice President, Chief Compliance Officer and Corporate Secretary in March 2016 and Chief Securities and Governance Officer in May 2018. Prior to her appointment in 2016, Ms. Benson was Assistant General Counsel, Corporate and Finance beginning in April 2012.

Mr. Brooks was appointed Executive Vice President, Refining effective October 2018. Prior to this appointment, Mr. Brooks was Senior Vice President, Refining beginning in March 2016. Previously, Mr. Brooks served as General Manager of the Galveston Bay refinery beginning in February 2013, and General Manager of the Robinson refinery beginning in 2010.

Mr. Case was appointed Senior Vice President, Western Refining Operations effective October 2018. Prior to this appointment, Mr. Case was General Manager of the Garyville refinery beginning in December 2014. Previously, Mr. Case served as General Manager of the Detroit refinery beginning in June 2010.

Ms. Gagle was appointed General Counsel in March 2016. Prior to this appointment, Ms. Gagle was Assistant General Counsel, Litigation and Human Resources beginning in April 2011.

Mr. Griffith was appointed Senior Vice President and Chief Financial Officer in March 2015. Prior to this appointment, Mr. Griffith served as Vice President, Finance and Investor Relations, and Treasurer beginning in January 2014. Previously, Mr. Griffith was Vice President of Finance and Treasurer beginning in August 2011.

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

Mr. Hernandez was appointed Senior Vice President, Eastern Refining Operations effective October 2018. Prior to this appointment, Mr. Hernandez was General Manager of the Galveston Bay refinery beginning in February 2016. Previously, Mr. Hernandez served as the General Manager of the Catlettsburg refinery beginning in June 2013.

Mr. Hessling was appointed Senior Vice President, Crude Oil Supply and Logistics effective October 2018. Prior to this appointment, Mr. Hessling was Manager, Crude Oil & Natural Gas Supply and Trading beginning in September 2014. Previously, Mr. Hessling served as Crude Oil Logistics & Analysis Manager beginning in July 2011.

Mr. Kaczynski was appointed Vice President, Finance and Treasurer in August 2015. Prior to this appointment, Mr. Kaczynski was Vice President and Treasurer of Goodyear Tire and Rubber Company, one of the world's largest tire manufacturers, beginning in 2014. Previously, Mr. Kaczynski served as Vice President, Investor Relations, of Goodyear Tire and Rubber Company beginning in 2013.

Ms. Kazarian was appointed Vice President, Investor Relations in April 2018. Prior to this appointment, Ms. Kazarian 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 worked at Deutsche Bank, a global investment bank and financial services company, as Managing Director of MLP, Midstream and Natural Gas Equity Research beginning in September 2014, and as an analyst specializing on various energy industry subsectors with Fidelity Management & Research Company, a privately held investment manager, beginning in 2005.

Mr. Kenney has served as President of Speedway LLC since August 2005.

Ms. Laird was appointed Chief Human Resources Officer effective October 2018. Prior to this appointment, Ms. Laird was Chief Human Resources Officer at Andeavor beginning in February 2018. Previously, Ms. Laird was the 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 July 2011.

Mr. Linhardt was appointed Vice President, Tax in February 2018. Prior to this appointment, Mr. Linhardt served as Director of Tax beginning in June 2017. Previously, Mr. Linhardt served as Manager of Tax Compliance beginning in May 2013.

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

Mr. Plumby was named Senior Vice President and Chief Operating Officer, Speedway LLC in January 2018 and was appointed an officer of MPC in February 2019. Previously, Mr. Plumby was Senior Vice President of Operations of Speedway LLC beginning in September 2013 and Vice President of Operations of Speedway LLC beginning in December 2010.

Mr. Quaid was appointed Vice President and Controller in June 2014. Prior to this appointment, Mr. Quaid was Vice President of Iron Ore at United States Steel Corporation ("U.S. Steel"), an integrated steel producer, beginning in January 2014. Previously, Mr. Quaid served as Vice President and Treasurer at U.S. Steel beginning in August 2011.

Mr. Sauber was appointed Senior Vice President, Labor Relations, Operations, Health and Administrative Services effective October 2018. Prior to this appointment, Mr. Sauber was Senior Vice President, Human Resources, Health and Administrative Services beginning in January 2018, and Vice President, Human Resources and Labor Relations beginning February 2017. Previously, Mr. Sauber was Vice President, Human Resources Policy, Benefits and Services of Shell Oil Company, a global energy and petrochemical company, beginning in 2013.

Mr. Templin was appointed President, Refining, Marketing and Supply effective October 2018. Prior to this appointment, Mr. Templin served as President beginning in July 2017; Executive Vice President beginning in January 2016; Executive Vice President, Supply, Transportation and Marketing beginning in March 2015; and Senior Vice President and Chief Financial Officer beginning in June 2011.

Ms. Thomson was appointed Vice President, Corporate Affairs effective October 2018. Prior to this appointment, Ms. Thomson served as Vice President of Andeavor Logistics beginning in June 2017. Previously, at Andeavor, Ms. Thomson served as Vice President, Salt Lake City refinery beginning in October 2012.

Mr. Wehrly was appointed Vice President and Chief Information Officer effective June 2011.

Mr. Whikehart was appointed Senior Vice President, Light Products, Supply and Logistics effective October 2018. Prior to this appointment, Mr. Whikehart served as Vice President, Environment, Safety and Corporate Affairs effective February 2016. Previously, Mr. Whikehart served as Vice President, Corporate Planning, Government & Public Affairs beginning in January 2016, and Director, Product Supply and Optimization beginning in March 2011.

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

Available Information

General information about MPC, including Corporate Governance Principles and Charters for the Audit Committee, Compensation Committee and Corporate Governance and Nominating Committee, can be found at www.marathonpetroleum.com by selecting “Investors” under “Corporate Governance” and “Board of Directors”. In addition, our Code of Business Conduct and Code of Ethics for Senior Financial Officers are also available in this same location. We will post on our website any amendments to, or waivers from, either of our codes requiring disclosure under applicable rules within four business days of the amendment or waiver.

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. 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 of the other information contained in this Annual Report on Form 10-K in evaluating us and our common stock. Some of these risks relate principally to our business and the industry in which we operate, while others relate to the ownership of our common stock.

Our business, financial condition, results of operations or cash flows could be materially and adversely affected by any of these risks, and, as a result, the trading price of our common stock could decline.

RISKS RELATING TO OUR BUSINESS

A substantial or extended decline in refining and marketing margins would reduce our operating results and cash flows and could materially and adversely impact our 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.

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. The price of crude oil and the price at which we can sell our refined products may 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 crude oil and refined products;
- the cost of crude oil and other feedstocks to be manufactured into refined products;
- the prices realized for refined products;

- transportation infrastructure availability, local market conditions and operation levels of other refineries in our markets;
- utilization rates of refineries;
- natural gas and electricity supply costs incurred by refineries;
- the ability of the members of OPEC to agree to and maintain production controls;
- political instability, threatened or actual terrorist incidents, armed conflict, or other global political conditions;
- local weather conditions;
- seasonality of demand in our marketing area due to increased highway traffic in the spring and summer months;
- natural disasters such as hurricanes and tornadoes;
- the price and availability of alternative and competing forms of energy;
- domestic and foreign governmental regulations and taxes; and
- local, regional, national and worldwide economic conditions.

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 purchase our crude oil and other refinery 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 could 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 also could have a material and adverse effect on our business, financial condition, results of operations and cash flows.

Lower refining and marketing margins may 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 decrease or eliminate our share repurchase activity and our base dividend.

Our operations are subject to business interruptions and casualty losses. Failure to manage risks associated with business interruptions could adversely impact our operations, financial condition, results of operations and cash flows.

Our operations are subject to business interruptions such as scheduled refinery turnarounds, unplanned maintenance or unplanned events such as explosions, fires, refinery or pipeline releases or other incidents, power outages, severe weather, labor disputes, or other natural or man-made disasters, such as acts of terrorism. For example, pipelines or railroads provide a nearly-exclusive form of transportation of crude oil to, or refined products from, some of our refineries. In such instances, 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, could materially and adversely affect the operations, profitability and cash flows of the impacted refinery.

Explosions, fires, refinery or pipeline releases or other incidents involving our assets or operations may result in serious personal injury or loss of human life, significant damage to property and equipment, environmental pollution, impairment of operations and substantial losses to us. 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.

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. Our coastal refineries receive crude oil and other feedstocks by tanker. In addition, our refineries receive crude oil and other feedstocks by rail car, truck and barge. 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 we have contracted to aid us in a discharge response may be unavailable due to weather conditions, governmental regulations or other local or global events. International, federal or state rulings could divert our response resources to other global events.

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, including but not limited to, explosions, fires, refinery or pipeline releases, cybersecurity breaches or other incidents involving our assets or operations, could 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. Marine vessel charter agreements may not provide complete indemnity for oil spills, and any marine charterer's liability insurance we carry may not cover all losses. 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 rely on the performance of our information technology systems, and the interruption or failure of any information technology system, including an interruption or failure due to a cybersecurity breach, could have an adverse effect on our business, financial condition, results of operations and cash flows.

We are heavily dependent on our information technology systems, including our network infrastructure and cloud applications, for the 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, investor and payroll data, and to manage or support a variety of business processes, including our supply chain, pipeline operations, gathering and processing operations, retail sales, credit card payments and authorizations at our retail outlets, financial transactions, banking and numerous other processes and transactions. These information systems involve data network and telecommunications, Internet access and website functionality, and various computer hardware equipment and software applications, including those that are critical to the safe operation of our business. Our systems and infrastructure are subject to damage or interruption from a number of potential sources including natural disasters, software viruses or other malware, power failures, cyber-attacks and other events. We also face various other cybersecurity threats from criminal hackers, state-sponsored intrusion, industrial espionage and employee malfeasance, including threats to gain unauthorized access to sensitive information or to render data or systems unusable.

To protect against such attempts of unauthorized access or attack, we have implemented multiple layers of cybersecurity protections, infrastructure protection technologies, disaster recovery plans and employee training. While we have invested significant amounts in the protection of our technology systems and maintain what we believe are adequate security controls over personally identifiable customer, investor and employee data, there can be no guarantee such plans, to the extent they are in place, will be effective.

Certain vendors have access to sensitive information, including personally identifiable customer, investor and employee data and a breakdown of their technology systems or infrastructure as a result of a cyber-attack or otherwise could result in unauthorized disclosure of such information. Unauthorized disclosure of sensitive or personally identifiable information, including by cyber-attacks or other security breach, could cause loss of data, give rise to remediation or other expenses, expose us to liability under federal and state laws, reduce our customers' willingness to do business with us, disrupt the services we provide to customers and subject us to litigation and investigations, which could have an adverse effect on our reputation, business, financial condition, results of operations and cash flows. State and federal cybersecurity legislation could also impose new requirements, which could increase our cost of doing business.

Competition in our industry is intense, and very aggressive competition could adversely impact our business.

We compete with a broad range of refining and marketing companies, including certain multinational oil companies. Competitors with integrated operations with exploration and production resources and broader access to resources may be better able to withstand volatile market conditions and to bear the risks inherent in the refining industry. For example, competitors that engage in exploration and production of crude oil may be better positioned to withstand periods of depressed refining margins or feedstock shortages.

We also face strong competition in the market for the sale of retail gasoline, diesel fuel and merchandise. Our competitors include outlets owned or operated by fully integrated major oil companies or their dealers or jobbers, and other well-recognized national or regional retail outlets, often selling gasoline or merchandise at very competitive prices. Several non-traditional retailers such as supermarkets, club stores and mass merchants are in the retail business. These non-traditional gasoline retailers have obtained a significant share of the transportation fuels market and we expect their market share to grow. Because of their diversity, integration of operations, experienced management and greater financial resources, these companies may be better able to withstand volatile market conditions or levels of low or no profitability in the retail segment of the market. In addition, these retailers may use promotional pricing or discounts, both at the pump and in the store, to encourage in-store merchandise sales. These activities by our competitors could pressure us to offer similar discounts, adversely affecting our profit margins.

Additionally, the loss of market share by our convenience stores to these and other retailers relating to either gasoline or merchandise could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The development, availability and marketing of alternative and competing fuels in the retail market could adversely impact our business. We compete with other industries that provide alternative means to satisfy the energy and fuel needs of our consumers. Increased competition from these alternatives as a result of governmental regulations, technological advances and consumer demand could have an impact on pricing and demand for our products and our profitability.

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 discussed above, 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 because of weather events, accidents, governmental regulations or third-party actions. A 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 could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our investments in joint ventures decrease our ability to manage risk.

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 a joint-venture 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 business, financial condition, results of operations and cash flows.

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

We currently use commodity derivative instruments, and we expect to enter into these types of transactions in the future. A failure of a futures commission merchant or counterparty to perform would affect these transactions. To the extent the instruments we utilize to manage these exposures are not effective, we may incur losses related to the ineffective portion of the derivative transaction or costs related to moving the derivative positions to another futures commission merchant or counterparty once a failure has occurred.

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, a decrease in debt capacity or unsecured commercial credit available to us, or by factors adversely affecting credit markets generally.

At December 31, 2018, our total debt obligations for borrowed money and capital lease obligations were $27.98 billion, including $13.86 billion of obligations of MPLX and $5.01 billion of obligations of ANDX. 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/or 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.

We have a trade receivables securitization facility that provides liquidity of up to $750 million depending on the amount of eligible domestic trade accounts receivables. In periods of lower prices, we may not have sufficient eligible accounts receivables to support full availability of this facility.

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 ANDX, and those of our predecessors and Andeavor's 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 may 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. We are defending litigation of that type and anticipate that we will be required to defend new litigation of that type in the future. 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. We do not have insurance covering all of these potential liabilities. 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 4,780 of our employees are covered by collective bargaining agreements. Of these employees, approximately 1,465 employees at our Galveston Bay, Mandan and Martinez refineries are covered by collective bargaining agreements which were set to expire on January 31, 2019. The parties continue their negotiations toward a new agreement, and are working under rolling extensions. Approximately 425 employees at our Martinez Chemical Plant, our Los Angeles refinery and our Galveston Bay refinery are covered by collective bargaining agreements expiring over the next several months. Approximately 410 hourly employees at Speedway are represented under collective bargaining agreements. The majority of these employees work at certain retail locations in New York and New Jersey under agreements which expire on March 14, 2019 and June 30, 2019, respectively. The remaining Speedway represented employees are drivers in Minnesota under an agreement which expires in 2021. Approximately 300 employees at our St. Paul Park and Gallup refineries are covered by collective bargaining agreements scheduled to expire in 2020. Approximately 1,620 employees at our Anacortes, Canton, Catlettsburg, Los Angeles, and Salt Lake City refineries are covered by collective bargaining agreements that are due to expire in 2022. The remaining 560 hourly represented employees are covered by collective bargaining agreements with expiration dates ranging from 2021 to 2024. These contracts 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 employees become joint employees, which could trigger bargaining issues, employment discrimination liability issues as well as wage and benefit consequences, especially during critical maintenance and construction periods.

Two of our subsidiaries act as general partners of publicly traded master limited partnerships, which may involve a greater exposure to certain legal liabilities than existed under our historic business operations.

One of our subsidiaries acts as the general partner of MPLX, a publicly traded MLP. Another of our subsidiaries acts as the general partner of ANDX, a publicly traded MLP. We acquired control of ANDX's general partner through the Andeavor acquisition. Our control of the general partners of MPLX and ANDX may increase the possibility of claims of breach of fiduciary duties, including claims of conflicts of interest related to MPLX and ANDX. 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, MPLX could be prohibited from operating inland river vessels, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

The Shipping Act of 1916 and Merchant Marine Act of 1920, which we refer to collectively as 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, MPLX would be prohibited from operating vessels in the U.S. inland waters. Such a prohibition could materially and adversely affect our business, financial condition, results of operations and cash flows.

We are subject to certain continuing contingent liabilities of Marathon Oil relating to taxes and other matters and to potential liabilities pursuant to the tax sharing agreement and separation and distribution agreement we entered into with Marathon Oil that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Although the Spinoff occurred in mid-2011, certain liabilities of Marathon Oil could become our obligations. For example, under the Internal Revenue Code of 1986 (the “Code”) and related rules and regulations, each corporation that was a member of the Marathon Oil consolidated tax reporting group during any taxable period or portion of any taxable period ending on or before the effective time of the Spinoff is jointly and severally liable for the federal income tax liability of the entire Marathon Oil consolidated tax reporting group for that taxable period. In connection with the Spinoff, we entered into a tax sharing agreement with Marathon Oil that allocates the responsibility for prior period taxes of the Marathon Oil consolidated tax reporting group between us and Marathon Oil. However, if Marathon Oil is unable to pay any prior period taxes for which it is responsible, we could be required to pay the entire amount of such taxes. Other provisions of federal law establish similar liability for other matters, including laws governing tax-qualified pension plans as well as other contingent liabilities.

Also pursuant to the tax sharing agreement, following the Spinoff we are responsible generally for all taxes attributable to us or any of our subsidiaries, whether accruing before, on or after the Spinoff. We also agreed to be responsible for, and indemnify Marathon Oil with respect to, all taxes arising as a result of the Spinoff (or certain internal restructuring transactions) failing to qualify as transactions under Sections 368(a) and 355 of the Code for U.S. federal income tax purposes to the extent such tax liability arises as a result of any breach of any representation, warranty, covenant or other obligation by us or certain affiliates made in connection with the issuance of the private letter ruling relating to the Spinoff or in the tax sharing agreement. In addition, we agreed to indemnify Marathon Oil for specified tax-related liabilities associated with our 2005 acquisition of the minority interest in our refining joint venture from Ashland Inc. Our indemnification obligations to Marathon Oil and its subsidiaries, officers and directors are not limited or subject to any cap. If we are required to indemnify Marathon Oil and its subsidiaries and their respective officers and directors under the tax sharing agreement, we may be subject to substantial liabilities. At this time, we cannot precisely quantify the amount of these liabilities that have been assumed pursuant to the tax sharing agreement, and there can be no assurances as to their final amounts.

Also, in connection with the Spinoff, we entered into a separation and distribution agreement with Marathon Oil that provides for, among other things, the principal corporate transactions that were required to effect the Spinoff, certain conditions to the Spinoff and provisions governing the relationship between our company and Marathon Oil with respect to and resulting from the Spinoff. Among other things, the separation and distribution agreement provides for indemnification obligations designed to make us financially responsible for substantially all liabilities that may exist relating to our downstream business activities, whether incurred prior to or after the Spinoff, as well as certain obligations of Marathon Oil assumed by us. Our obligations to indemnify Marathon Oil under the circumstances set forth in the separation and distribution agreement could subject us to substantial liabilities. Marathon Oil also agreed to indemnify us for certain liabilities. However, third parties could seek to hold us responsible for any of the liabilities retained by Marathon Oil, and there can be no assurance that the indemnity from Marathon Oil will be sufficient to protect us against the full amount of such liabilities, that Marathon Oil will be able to fully satisfy its indemnification obligations or that Marathon Oil’s insurers will cover us for liabilities associated with occurrences prior to the Spinoff. Moreover, even if we ultimately succeed in recovering from Marathon Oil or its insurers any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves. The tax liabilities and underlying liabilities in the event Marathon Oil is unable to satisfy its indemnification obligations described in this paragraph could have a material adverse effect on our business, financial condition, results of operation and cash flows.

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

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

- Inaccurate assumptions about future synergies, revenues, capital expenditures and operating costs;

- An inability to successfully integrate 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; and
- The incurrence of other significant charges, such as impairment of goodwill or other intangible assets, asset devaluation or restructuring charges.

A significant decrease or delay in oil and natural gas production in MPLX's or ANDX's areas of operation, whether due to sustained declines in oil, natural gas and NGL prices, natural declines in well production, or otherwise, may adversely affect MPLX's or ANDX's business, results of operations and financial condition, and could reduce their ability to make distributions to us.

A significant portion of MPLX's operations are dependent upon production from oil and natural gas reserves and wells owned by its producer customers, which 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 and NGL supplies, which depends in part on the level of successful drilling activity near its facilities. Similarly, ANDX's operations are dependent in part on the production of crude oil in the Bakken region and the production of natural gas and NGLs in the Green River, Uinta and Williston basins.

We have no control over the level of drilling activity in the areas of MPLX's or ANDX'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, among other things, prevailing and projected energy prices, drilling costs per Mcf or barrel, demand for hydrocarbons, operational challenges, access to downstream markets, the level of reserves, geological considerations, governmental regulations and the availability and cost of capital. Because of these factors, even if new oil or natural gas reserves are discovered in areas served by MPLX or ANDX assets, producers may choose not to develop those reserves. If MPLX and ANDX are not able to obtain new supplies of oil, natural gas or NGLs to replace the natural decline in volumes from existing wells, throughput on their pipelines and the utilization rates of their facilities would decline, which could have a material adverse effect on their business, results of operations and financial condition and could reduce their ability to make distributions to us.

Decreases in energy prices can decrease 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 could result in producers also significantly curtailing or limiting their oil and gas drilling operations which could substantially delay the production and delivery of volumes of oil, natural gas and NGLs to MPLX's and ANDX'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 or ANDX's unit price, thereby increasing its distribution yield and cost of capital. Such impacts could adversely impact MPLX's and ANDX'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.

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.

We do not own all of the land on which our assets are located, which could disrupt our operations.

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 or terminate or it is determined that we do not have valid leases, rights-of-way or other property rights. Our loss of these rights, including loss through our inability to renew 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.

RISKS RELATING TO THE ANDEAVOR ACQUISITION

The Andeavor acquisition may not be accretive, and may be dilutive, to MPC's earnings per share and cash flow from operations per share, which may negatively affect the market price of shares of MPC common stock.

The Andeavor acquisition may not be accretive, and may be dilutive, to MPC's earnings per share and cash flow from operations per share. Earnings per share and cash flow from operations per share in the future are based on preliminary estimates that may materially change. In addition, future events and conditions could decrease or delay any accretion, result in dilution or cause greater dilution than is currently expected, including:

- adverse changes in energy market conditions;
- commodity prices for oil, natural gas and natural gas liquids;
- production levels;
- operating results;
- competitive conditions;
- laws and regulations affecting the energy business;
- capital expenditure obligations;
- higher than expected integration costs;
- lower than expected synergies; and
- general economic conditions.

Any dilution of, or decrease or delay of any accretion to, MPC's earnings per share or cash flow from operations per share could cause the price of MPC's common stock to decline.

MPC has incurred and will continue to incur significant costs in connection with the Andeavor acquisition, which may be in excess of those anticipated by MPC.

MPC has incurred substantial expenses in connection with the Andeavor acquisition. MPC expects to continue to incur a number of non-recurring costs associated with combining the operations of the two companies and achieving desired synergies. These fees and costs have been, and will continue to be, substantial.

MPC will also incur transaction fees and costs related to formulating and implementing integration plans, including facilities and systems consolidation costs and employment-related costs. Additional unanticipated costs may be incurred in the integration of the two companies' businesses. Although MPC expects that the elimination of duplicative costs, as well as the realization of other efficiencies related to the integration of the businesses, should allow MPC to offset integration-related costs over time, this net benefit may not be achieved in the near term, or at all. See the risk factor below entitled "The integration of Andeavor into MPC may not be as successful as anticipated."

The costs described above, as well as other unanticipated costs and expenses, could materially and adversely affect MPC's results of operations, financial position and cash flows.

The integration of Andeavor into MPC may not be as successful as anticipated.

The Andeavor acquisition involves numerous operational, strategic, financial, accounting, legal, tax and other risks; potential liabilities associated with the acquired businesses; and uncertainties related to design, operation and integration of Andeavor's internal control over financial reporting. Difficulties in integrating Andeavor into MPC may result in legacy Andeavor assets performing differently than expected, in operational challenges or in the failure to realize anticipated expense-related efficiencies. Potential difficulties that may be encountered in the integration process include, among other factors:

- the inability to successfully integrate the businesses of Andeavor into MPC in a manner that permits MPC to achieve the full revenue and cost savings anticipated from the merger;
- complexities associated with managing the larger, more complex, integrated business;
- not realizing anticipated operating synergies or incurring unexpected costs to realize such synergies;
- integrating personnel from the two companies while maintaining focus on providing consistent, high-quality products and services;
- potential unknown liabilities and unforeseen expenses, delays or regulatory conditions associated with the merger;
- loss of key employees;
- integrating relationships with customers, vendors and business partners;
- performance shortfalls as a result of the diversion of management's attention caused by completing the merger and integrating Andeavor's operations into MPC; and
- the disruption of, or the loss of momentum in, each company's ongoing business or inconsistencies in standards, controls, procedures and policies.

MPC's results may suffer if it does not effectively manage its expanded operations following the Andeavor acquisition.

MPC's success depends, in part, on its ability to manage its expansion following the Andeavor acquisition, which poses numerous risks and uncertainties, including the need to integrate the operations and business of Andeavor into its existing business in an efficient and timely manner, to combine systems and management controls and to integrate relationships with customers, vendors and business partners.

MPC may fail to realize all of the anticipated benefits of the Andeavor acquisition.

The success of the Andeavor acquisition depends, in part, on MPC's ability to realize the anticipated benefits and cost savings from combining MPC's and Andeavor's businesses, including the annual gross, run-rate, commercial and corporate synergies that MPC expects to realize within the first three years after the combination. The anticipated benefits and cost savings of the Andeavor acquisition may not be realized fully or at all, may take longer to realize than expected, may require more non-recurring costs and expenditures to realize than expected or could have other adverse effects. Some of the assumptions that MPC has made, such as with respect to anticipated: operating synergies or the costs associated with realizing such synergies; significant long-term cash flow generation; the benefit from a substantial increase in scale and geographic diversity; complementary growth platforms for both midstream and retail businesses; positioning for potentially significant benefits from the International Maritime Organization change in specifications for marine bunker fuel; the expansion in opportunities for logistics growth in crude oil production basins and regions; further optimization of crude supply; and the continuation of MPC's investment grade credit profile, may not be realized. The integration process may result in the loss of key employees, the disruption of ongoing businesses or inconsistencies in standards, controls, procedures and policies. There could be potential unknown liabilities and unforeseen expenses associated with the Andeavor acquisition that were not discovered in the course of performing due diligence.

We have recorded goodwill and other intangible assets that could become 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, 2018, our balance sheet reflected $20.2 billion and $3.4 billion of goodwill and other intangible assets, respectively. These amounts include the preliminary estimates of goodwill and other intangible assets of $16.3 billion and $2.8 billion, respectively, recognized in connection with the Andeavor acquisition. To the extent the value of goodwill or intangible assets becomes impaired, we may be required to incur 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.

RISKS RELATED TO OUR INDUSTRY

Meeting the requirements of evolving environmental or other laws or regulations may reduce our refining and marketing margin and may result in substantial capital expenditures and operating costs that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Various laws and regulations are expected to impose increasingly stringent and costly requirements on our operations, which may reduce our refining and marketing margin. 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,
- pollution prevention,
- greenhouse gas emissions,
- climate change,
- characteristics and composition of gasoline and diesel fuels,
- public and employee safety and health,
- 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 and production processes. We may be required to make expenditures to modify operations, install pollution control equipment, perform site cleanups or curtail operations that could materially and adversely affect our business, financial condition, results of operations and cash flows.

The EPA's National Ambient Air Quality Standards ("NAAQS") are among the regulations that impact our operations. In October 2015, the EPA reduced the primary (health) ozone NAAQS to 70 ppb from the prior ozone level of 75 ppb. On November 6, 2017, the EPA finalized ozone attainment/unclassifiable designations under the new standard. In actions dated April 30, 2018, and July 25, 2018, the EPA finalized nonattainment designations for certain areas under the lower primary ozone standard. In some areas, these nonattainment designations could result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities. States will also be required to adopt SIPs for nonattainment areas. These SIPs may include NOx and/or VOC reductions that could result in increased costs to our facilities. We cannot predict the various SIP requirements at this time. The EPA announced that it plans to review the NAAQS level for particulate matter ("PM"). A reduction in the PM NAAQS and subsequent designation of nonattainment could also result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities.

The EISA established increases in fuel mileage standards. The Department of Transportation's National Highway Safety Administration and the EPA work in conjunction to establish CAFE standards and greenhouse gas emission standards for light-duty vehicles that become more stringent over time. In addition, pursuant to a waiver granted by the EPA, California and other states have enacted laws that require vehicle emission reductions. Increases in fuel mileage standards and requirements for zero emission vehicles may reduce demand for refined product.

The EISA also expanded the Renewable Fuel Standard ("RFS") program administered by the EPA. Governmental regulations encouraging the use of new or alternative fuels could pose a competitive threat to our operations. The EISA required the total volume of renewable transportation fuels sold or introduced annually in the U.S. to reach 36.0 billion gallons by 2022. The RFS presents production and logistics challenges for both the renewable fuels and petroleum refining industries, and may continue to require additional capital expenditures or expenses by us to accommodate increased renewable fuels use. Gasoline consumption has been lower than forecasted by the EPA, which has led to concerns that the renewable fuel volumes may not be met. On November 30, 2018, EPA finalized RFS volume requirements for the year 2019, and the biomass-based diesel volume requirement for year 2020. The EPA used its cellulosic waiver authority to reduce the volumes for 2019 from the statutory amounts to the following: 19.92 billion gallons total renewable fuel; 4.92 billion gallons advanced biofuel; and 418 million gallons cellulosic biofuel. The EPA set the biomass-based diesel volume requirement for 2020 at 2.43 billion gallons, which is significantly greater than the statutory floor of 1.0 billion gallons.

Tax incentives and other subsidies have also made renewable fuels more competitive with refined products than they otherwise would have been, which may further reduce refined product margins. The tax incentives and subsidies are causing uncertainties because they have expired and been reinstituted retroactively. The biodiesel credit, for example, expired at the end of 2016 and was retroactively reinstated in early 2018. It is not certain whether the credit will be reinstituted beyond 2018.

On March 3, 2014, the EPA signed the final Tier 3 fuel standards. The final Tier 3 fuel standards require, among other things, a lower annual average sulfur level in gasoline to no more than 10 ppm beginning in calendar year 2017. In addition, gasoline refiners and importers may not exceed a maximum per-gallon sulfur standard of 80 ppm, while retailers may not exceed a maximum per-gallon sulfur standard of 95 ppm. Since 2014, we have made approximately $490 million in capital expenditures necessary to comply with these standards. For 2019, we expect an additional $260 million of capital expenditures to comply with these standards.

Federal, state and local legislation and regulatory initiatives relating to hydraulic fracturing could delay or impede producer’s gas production or result in reduced volumes available for our midstream assets to gather, process and fractionate. 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. If federal, state or local laws or regulations that significantly restrict hydraulic fracturing are adopted, such legal requirements could make it more difficult to complete natural gas wells in shale formations and increase producers’ costs of compliance.

Climate change and greenhouse gas 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 greenhouse gas (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 greenhouse gas or other emissions, establish a carbon tax and decrease the demand for our 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, in California, the state legislature adopted SB 32 in 2016. SB 32 set a cap on emissions of 40% below 1990 levels by 2030 but did not establish a particular mechanism to achieve that target. The legislature also adopted a companion bill, AB 197, that most significantly directs the CARB to prioritize direct emission reductions on large stationary sources. In 2017, the state legislature adopted AB 398 which provides direction and parameters on utilizing cap and trade after 2020 to meet the 40% reduction target from 1990 levels by 2030 specified in SB 32. In 2009, CARB adopted the Low Carbon Fuel Standard (“LCFS”). The LCFS was amended again in 2018 with the current version targeting a 20% reduction in fuel carbon intensity from a 2010 baseline by 2030. Compliance is demonstrated by blending lower carbon intensity biofuels into gasoline and diesel or by purchasing credits. Compliance with each of the cap and trade and LCFS programs is demonstrated through a market-based credit system. 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.

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 have also resulted in a number of international and national measures to limit greenhouse gas emissions. Additional stricter measures 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 has announced its intention to withdraw from the Paris Agreement, withdrawal it is not possible until November 2019 at the earliest. If the United States declines to withdraw, the extent of such regulation and the cost associated with compliance cannot be predicted.

We could also face increased climate- related litigation with respect to our operations or products. Governmental and other entities in California, New York, Maryland and Rhode Island have filed lawsuits against coal, gas, oil and petroleum companies, including the Company. 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. There remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on the Company's business, financial condition, results of operation and cash flows.

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.

Severe weather events and other climate conditions may adversely affect our facilities and ongoing operations.

We have mature systems in place to manage potential acute physical risks, such as floods, hurricane-force winds, wildfires and snowstorms, and potential chronic physical risks, such as higher ocean levels. If any such events were to occur, they could have an adverse effect on our assets and operations. Specifically, where appropriate, we are hardening and modernizing assets against weather damage and ensuring we have resiliency measures in place, such as storm-specific readiness plans. 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.

Plans we may have to expand existing assets or construct new assets are subject to risks associated with societal and political pressures and other forms of opposition to the future development, transportation and use of carbon-based fuels. Such risks could adversely impact our business and ability to realize certain growth strategies.

Our anticipated growth and planned expenditures are based upon the assumption that societal sentiment will continue to enable and existing regulations will remain intact to allow for the future development, transportation and use of carbon-based fuels. A portion of our growth strategy is dependent on our ability to expand existing assets and to construct additional assets. However, policy decisions relating to the production, refining, transportation and marketing of carbon-based fuels are subject to political pressures and the influence and protests of environmental and other special interest groups. One of the ways we may grow our business is through the construction of new pipelines or the expansion of existing ones. The construction of a new pipeline or the expansion of an existing pipeline, by adding horsepower or pump stations or by adding additional pipelines along existing pipelines, involves numerous regulatory, environmental, political, and legal uncertainties, most of which are beyond our control. 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 greenhouse gas emissions downstream of pipeline operations. In addition, government disruptions, such as a U.S. federal government shutdown, may delay or halt the granting and renewal of permits, licenses and other items required by us and our customers to conduct our business. We have experienced construction delays related to these factors as a result of the U.S. federal government's recent shutdown. Our expansion or construction projects may not be completed on schedule (or at all) or at the budgeted cost. In addition, 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 will not receive any material increases in revenues until after completion of the project. Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities (including improvements and repairs to our existing facilities) could adversely affect our ability to achieve forecasted internal rates of return and operating results, thereby limiting our ability to grow and generate cash flows.

Large capital projects can take many years to complete, and market conditions could deteriorate significantly between the project approval date and the project startup date, negatively impacting project returns. If we are unable to complete capital projects at their expected costs and in a timely manner, or if the market conditions assumed in our project economics deteriorate, our business, financial condition, results of operations and cash flows could be materially and adversely affected.

Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities could materially adversely affect our ability to achieve forecasted internal rates of return and operating results. Delays in 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:

- denial of or delay in receiving requisite regulatory approvals and/or permits;
- unplanned increases in the cost of construction materials or labor;
- 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; and
- nonperformance by, or disputes with, vendors, suppliers, contractors or subcontractors.

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 business, financial condition, results of operations and cash flows.

The availability of crude oil and increases in crude oil prices may reduce profitability and refining and marketing margins.

The profitability of our operations depends largely on the difference between the cost of crude oil and other feedstocks we refine and the selling prices we obtain for refined products. A portion of our crude oil is purchased from various foreign national oil companies, production companies and trading companies, including suppliers from Canada, the Middle East and various other international locations. The market for crude oil and other feedstocks is largely a world market. We are, therefore, subject to the attendant political, geographic and economic risks of such a market. If one or more major supply sources were temporarily or permanently eliminated, we believe adequate alternative supplies of crude oil would be available, but it is possible we would be unable to find alternative sources of supply. If we are unable to obtain adequate crude oil volumes or are able to obtain such volumes only at unfavorable prices, our operations, sales of refined products and refining and marketing margins could be adversely affected, materially and adversely impacting our business, financial condition, results of operations and cash flows.

We are subject to risks arising from our non-U.S. operations and generally to worldwide political and economic developments.

We have expanded the scope of our non-U.S. operations through the Andeavor acquisition, particularly in Mexico, South America and Asia. 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, duties and tariffs, transportation delays, import and export controls, changes in governmental policies, labor unrest, security issues involving key personnel and changing regulatory and political environments. In addition, if trade relationships deteriorate with these countries, if existing trade agreements are modified or terminated, new economic sanctions relevant to such jurisdictions are passed or if taxes, border adjustments or tariffs make trading with these countries more costly, it could 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. For example, the Foreign Corrupt Practices Act and similar laws and regulations prohibit improper payments to foreign officials for the purpose of obtaining or retaining business or gaining any business advantage. Our compliance policies and programs mandate compliance with all applicable anti-corruption laws but may not be completely effective in ensuring our compliance. 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 or the occurrence or threat of future terrorist attacks could adversely affect the economies of the U.S. and other developed countries. A lower level of economic activity could result in a decline in energy consumption, which could 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 and/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.

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 and state income taxes and transactional taxes such as excise, sales and use, payroll, franchise, withholding and property taxes. New tax laws and regulations and changes in existing tax laws and regulations 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.

Additionally, many tax liabilities are subject to periodic audits by taxing authorities, and such audits could subject us to interest and penalties.

Terrorist attacks aimed at our facilities or that impact our customers or the markets we serve could adversely affect our business.

The U.S. government has issued warnings that energy assets in general, including the nation’s refining, pipeline and terminal infrastructure, may be future targets of terrorist organizations. The threat of terrorist attacks has subjected our operations to increased risks. Any future terrorist attacks on our facilities, those of our customers and, in some cases, those of other pipelines, could have a material adverse effect on our business. Similarly, any future terrorist attacks that severely disrupt the markets we serve could materially and adversely affect our results of operations, financial position and cash flows.

RISKS RELATING TO OWNERSHIP OF OUR COMMON STOCK

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.

We believe these provisions protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors time to assess any acquisition proposal, and are not intended to make us immune from takeovers. However, these provisions apply even if the offer may be considered beneficial by some stockholders and could delay or prevent an acquisition.

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.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

Table of Contents

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, 2018. Refining throughput can exceed crude oil 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	
Galveston Bay, Texas City, Texas	585
Garyville, Louisiana	564
Subtotal Gulf Coast region	1,149
Mid-Continent Region	
Catlettsburg, Kentucky	277
Robinson, Illinois	245
Detroit, Michigan	140
El Paso, Texas	131
St. Paul Park, Minnesota	98
Canton, Ohio	93
Mandan, North Dakota	71
Salt Lake City, Utah	61
Gallup, New Mexico	26
Dickinson, North Dakota	19
Subtotal Mid-Continent region	1,161
West Coast Region	
Los Angeles, California	363
Martinez, California	161
Anacortes, Washington	119
Kenai, Alaska	68
Subtotal West Coast region	711
	3,021

Table of Contents

The following table sets forth the approximate number of locations by state where independent entrepreneurs maintain branded outlets, primarily marketed under Marathon, Shell, Mobil and other brands, as of December 31, 2018.

Location	Number of Branded Outlets
Alabama	366
Alaska	43
Arizona	80
California	75
Colorado	13
District of Columbia	2
Florida	610
Georgia	298
Idaho	98
Illinois	262
Indiana	642
Iowa	4
Kentucky	554
Louisiana	26
Maryland	31
Mexico	114
Michigan	798
Minnesota	295
Mississippi	98
Nevada	67
New Mexico	31
New York	36
North Carolina	218
North Dakota	104
Ohio	842
Oregon	44
Pennsylvania	68
South Carolina	114
South Dakota	29
Tennessee	402
Texas	8
Utah	91
Virginia	117
Washington	61
West Virginia	110
Wisconsin	58
Wyoming	4
Total	6,813

The following table sets forth details about our Refining & Marketing owned and operated terminals as of December 31, 2018. See the Midstream - MPLX section for information with respect to MPLX owned and operated terminals. See the Midstream - ANDX section for information with respect to ANDX owned and operated terminals.

Owned and Operated Terminals	**Number of Terminals**	**Tank Storage Capacity (*thousand barrels*)**
Light Products Terminal:		
Ohio	1	495
Asphalt Terminals:		
Florida	1	263
Illinois	2	82
Indiana	2	424
Kentucky	4	549
Louisiana	1	54
Michigan	1	12
Ohio	4	1,800
Pennsylvania	1	452
Tennessee	2	483
Subtotal asphalt terminals	18	4,119
Total owned and operated terminals	19	4,614

RETAIL

Our Retail segment sells transportation fuels and merchandise through convenience stores it owns and operates, primarily under the Speedway brand, and sells transportation fuels through direct dealer locations, primarily under the ARCO brand. The following table sets forth the number of company-owned convenience stores by state as of December 31, 2018.

Location	Number of Convenience Stores
Alaska	31
Arizona	95
California	492
Colorado	12
Connecticut	1
Delaware	4
Florida	239
Georgia	6
Idaho	7
Illinois	125
Indiana	309
Kentucky	146
Massachusetts	108
Michigan	306
Minnesota	205
Nevada	9
New Hampshire	12
New Jersey	67
New Mexico	120
New York	309
North Carolina	276
Ohio	491
Oregon	14
Pennsylvania	122
Rhode Island	19
South Carolina	52
South Dakota	1
Tennessee	49
Texas	31
Utah	39
Virginia	62
Washington	32
West Virginia	59
Wisconsin	70
Wyoming	3
Total	3,923

The following table sets forth the number of direct dealer locations by state as of December 31, 2018.

Location	Number of Locations
Alaska	1
Arizona	71
California	930
Nevada	62
Washington	1
Total	1,065

MIDSTREAM - MPLX

The following tables set forth certain information relating to MPLX's crude and products pipeline systems and storage assets as of December 31, 2018.

Pipeline System or Storage Asset	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Capacity[a]	Associated MPC refinery
Crude oil pipeline systems (mbpd):						
Patoka, IL to Lima, OH crude system	Patoka, IL	Lima, OH	20"-22"	302	267	Detroit, Canton
Lima, OH to Canton, OH crude system	Lima, OH	Canton, OH	12"-16"	153	84	Canton
Catlettsburg, KY and Robinson, IL crude system	Patoka, IL	Catlettsburg, KY & Robinson, IL	20"-24"	484	515	Catlettsburg, Robinson
Detroit, MI crude system[b]	Samaria & Romulus, MI	Detroit, MI	16"	61	197	Detroit
Ozark crude system	Cushing, OK	Wood River, IL	22"	433	360	All Midwest refineries
Wood River, IL to Patoka, IL crude system[b]	Wood River & Roxana, IL	Patoka, IL	12"-22"	115	454	All Midwest refineries
St. James, LA to Garyville, LA crude system	St James, LA	Garyville, LA	30"	20	620	Garyville, LA
Inactive pipelines				49	N/A	
Total				1,617	2,497	
Products pipeline systems (mbpd):						
Cornerstone products system	Cornerstone	Canton, OH	8"-16"	59	238	Canton
Garyville, LA products system	Garyville, LA	Zachary, LA	20"-36"	72	389	Garyville
Texas City, TX products system	Texas City, TX	Pasadena, TX	16"-36"	43	215	Galveston Bay
ORPL products system	Various	Various	4"-14"	876	383	Catlettsburg, Canton
Robinson, IL products system[b]	Various	Various	10"-16"	1,131	513	Robinson
Woodhaven, MI to Detroit, MI	Woodhaven, MI	Detroit, MI	4"	26	12	N/A
Louisville, KY Airport products system	Louisville, KY	Louisville, KY	6"-8"	14	29	Robinson
Tennessee products system[b]	Nashville Bordeaux	Nashville 51st	8"-12"	2	60	N/A
Inactive pipelines[b]				140	N/A	
Total				2,363	1,839	
Wood River Barge Dock (mbpd)					78	Garyville
Storage assets (thousand barrels):						
Refinery tank storage[c]					55,650	Various
Mt. Airy Terminal					3,979	Garyville
Canton Crude Truck Unload					3	Canton
Tank Farms					20,090	N/A
Caverns					4,175	N/A
Total					83,897	

(a) All capacities reflect 100 percent of the pipeline systems' and barge dock's average capacity in thousands of barrels per day and 100 percent of the available storage capacity of our caverns and tank farms in thousands of barrels.

(b) Includes pipelines leased from third parties.

(c) Refining logistics assets also include rail racks, truck racks and docks.

As of December 31, 2018, MPLX had partial ownership interests in the following pipeline companies.

Pipeline Company	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:						
Bakken Pipeline system	Bakken/Three Forks area, North Dakota	Nederland, TX	30"	1,921	9.2%	No
Illinois Extension Pipeline Company LLC	Flanagan, IL	Patoka, IL	24"	168	35%	No
LOCAP LLC	Clovelly, LA	St. James, LA	48”	57	59%	No
LOOP LLC (“LOOP”)[a]	Offshore Gulf of Mexico	Clovelly, LA	48”	48	41%	No
Total				2,194		
Products pipeline companies:						
Explorer Pipeline Company	Port Arthur, TX	Hammond, IN	12”-28”	1,830	25%	No
Louisville, KY to Lexington, KY	Louisville, KY	Lexington, KY	8"	87	65%	Yes
				1,917		

[a] Excludes MPC’s 10% ownership interest in LOOP.

The following table sets forth details about MPLX owned and operated terminals as of December 31, 2018. Additionally, MPLX operates one leased terminal and has partial ownership interest in two terminals.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (*thousand barrels*)
Light Products Terminals:		
Alabama	2	443
Florida	4	3,422
Georgia	4	998
Illinois	4	1,221
Indiana	6	3,229
Kentucky	6	2,587
Louisiana	1	97
Michigan	8	2,440
North Carolina	4	1,509
Ohio	12	3,218
Pennsylvania	1	390
South Carolina	1	371
Tennessee	4	1,149
West Virginia	2	1,587
Total light products terminals	59	22,661

The following table sets forth details about MPLX barges and towboats as of December 31, 2018.

Class of Equipment	Number in Class	Capacity (*thousand barrels*)
Inland tank barges:[a]		
Less than 25,000 barrels	61	931
25,000 barrels and over	195	5,738
Total	256	6,669
Inland towboats:		
Less than 2,000 horsepower	2	
2,000 horsepower and over	21	
Total	23	

(a) All of our barges are double-hulled.

The following tables set forth certain information relating to MPLX's gas processing facilities, fractionation facilities, de-ethanization facilities and natural gas gathering systems as of December 31, 2018, and include capacities and throughputs related to operated equity method investments on a 100 percent basis.

Gas Processing Complexes	Location	Design Throughput Capacity (*MMcf/d*)	Natural Gas Throughput (*MMcf/d*)[a]	Utilization of Design Capacity[a]
Bluestone Complex	Butler County, PA	410	392	96%
Harmon Creek Complex	Washington County, PA	200	12	75%
Houston Complex	Washington County, PA	720	528	78%
Majorsville Complex	Marshall County, WV	1,270	1,072	92%
Mobley Complex	Wetzel County, WV	920	708	77%
Sherwood Complex[b]	Doddridge County, WV	2,200	1,736	94%
Cadiz Complex[b]	Harrison County, OH	525	472	90%
Seneca Complex[b]	Noble County, OH	800	414	52%
Kenova Complex	Wayne County, WV	160	96	60%
Boldman Complex	Pike County, KY	70	30	43%
Cobb Complex	Kanawha County, WV	65	19	29%
Kermit Complex[c]	Mingo County, WV	32	N/A	N/A
Langley Complex	Langley, KY	325	102	31%
Carthage Complex	Panola County, TX	600	423	71%
Western Oklahoma Complex	Custer and Beckham Counties, OK	500	420	91%
Hidalgo System	Culberson County, TX	200	199	100%
Argo Complex	Culberson County, TX	200	39	21%
Javelina Complex	Corpus Christi, TX	142	107	75%
Total		9,307	6,769	79%

(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) MPLX accounts for as an equity method investment.

(c) The Kermit processing plant is operated by a third party solely to prevent liquids from condensing in the gathering and transmission pipelines upstream of our Kenova plant. MPLX does not receive Kermit gas volume information but does receive all of the liquids produced at the Kermit Complex. As such, the design throughput capacity and the natural gas throughput has been excluded from the subtotal.

Fractionation & Condensate Stabilization Complexes	Location	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)[(a)]	Utilization of Design Capacity[(a)]
Bluestone Complex	Butler County, PA	47	22	47%
Houston Complex	Washington County, PA	60	61	102%
Hopedale Complex	Harrison County, OH	240	158	86%
Ohio Condensate Complex[(b)]	Harrison County, OH	23	12	52%
Siloam Complex	South Shore, KY	24	15	63%
Javelina Complex	Corpus Christi, TX	11	11	100%
Total		405	279	80%

(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.

(b) MPLX accounts for as an equity method investment.

De-ethanization Complexes	Location	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)[(a)]	Utilization of Design Capacity[(a)]
Bluestone Complex	Butler County, PA	34	20	59%
Harmon Creek Complex	Washington County, PA	20	1	28%
Houston Complex	Washington County, PA	40	37	93%
Majorsville Complex	Marshall County, WV	80	67	84%
Mobley Complex	Wetzel County, WV	10	10	100%
Sherwood Complex	Doddridge County, WV	60	36	86%
Cadiz Complex[(b)]	Harrison County, OH	40	14	35%
Javelina Complex	Corpus Christi, TX	18	7	39%
Total		302	192	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.

(b) MPLX accounts for as an equity method investment.

Natural Gas Gathering Systems	Location	Design Throughput Capacity (*MMcf/d*)	Natural Gas Throughput (*MMcf/d*)[(a)]	Utilization of Design Capacity[(a)]
Bluestone System	Butler County, PA	227	183	81%
Houston System	Washington County, PA	1,304	972	79%
Ohio Gathering System[(b)]	Harrison, Monroe, Belmont, Guernsey and Noble Counties, OH	1,123	764	68%
Jefferson Gas System[(b)]	Jefferson County, OH	2,000	1,045	75%
East Texas System	Harrison and Panola Counties, TX	680	476	70%
Western Oklahoma System	Wheeler County, TX and Roger Mills, Ellis, Dewey, Custer, Beckham, Washita, Kingfisher, Canadian, and Blaine Counties, OK	585	455	78%
Southeast Oklahoma System	Hughes, Pittsburg and Coal Counties, OK	755	585	77%
Eagle Ford System	Dimmit County, TX	45	42	93%
Other Systems	Various	60	9	15%
Total		6,779	4,531	74%

(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) MPLX accounts for as an equity method investment.

The following tables set forth certain information relating to MPLX's NGL pipelines as of December 31, 2018.

NGL Pipelines	Location	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)	Utilization of Design Capacity
Sherwood to Mobley propane and heavier liquids pipeline	Doddridge County, WV to Wetzel County, WV	75	71	95%
Mobley to Majorsville propane and heavier liquids pipeline	Wetzel County, WV to Marshall County, WV	105	97	92%
Majorsville to Houston propane and heavier liquids pipeline	Marshall County, WV to Washington County, PA	45	30	67%
Majorsville to Hopedale propane and heavier liquids pipeline	Marshall County, WV to Harrison County, OH	140	124	89%
Majorsville to Hopedale propane and heavier liquids pipeline	Marshall County, WV to Harrison County, OH	422	143	34%
Third party processing plant to Bluestone ethane and heavier liquids pipeline	Butler County, PA	32	8	25%
Bluestone to Mariner West ethane pipeline	Butler County, PA to Beaver County, PA	35	20	57%
Sarsen to Bluestone ethane and heavier liquids pipeline	Butler County, PA	7	2	29%
Houston to Ohio River ethane pipeline[a]	Washington County, PA to Beaver County, PA	57	13	23%
Majorsville to Houston ethane pipeline	Marshall County, WV to Washington County, PA	137	113	82%
Sherwood to Mobley ethane pipeline	Doddridge County, WV to Wetzel County, WV	47	35	74%
Mobley to Majorsville ethane pipeline	Wetzel County, WV to Marshall County, WV	57	45	79%
Harmon Creek to Houston propane and heavier liquids pipeline	Washington County, PA	140	9	6%
Harmon Creek to Mariner West ethane pipeline	Washington County, PA	110	6	5%
Seneca to Cadiz propane and heavier liquids pipeline[b]	Noble County, OH to Harrison County, OH	75	10	13%
Cadiz to Hopedale propane and heavier liquids pipeline[b]	Harrison County, OH	90	32	36%
Seneca to Cadiz propane/ethane and heavier liquids pipeline[b][c]	Noble County, OH to Harrison County, OH	69/82	15	18%
Cadiz to Atex ethane pipeline[b]	Harrison County, OH	125	4	3%
Cadiz to Utopia ethane pipeline[b]	Harrison County, OH	125	11	9%
Langley to Siloam propane and heavier liquids pipeline	Langley, KY to South Shore, KY	17	11	65%
East Texas liquids pipeline	Panola County, TX	39	22	56%

(a) This is the section of the Mariner West pipeline that is leased to and operated by Sunoco Logistics Partners LP.
(b) MPLX accounts for as an equity method investment.
(c) This is the same pipeline from Seneca to Cadiz and can only be used for either ethane and heavier liquids or propane and heavier liquids at one time. Both throughput capacities are listed above, respectively, with ethane included in the total.

MIDSTREAM - ANDX

The following tables set forth certain information relating to ANDX's crude and products pipeline systems and storage assets as of December 31, 2018.

Pipeline System or Storage Asset	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Capacity[a]	Associated MPC refinery
Crude oil pipeline systems (mbpd):						
Belfield crude system	Various	Fryburg Rail/ Dickinson, ND	4" - 8"	128	20	Dickinson, ND
Delaware Basin crude system	TexNewMex crude system	Various	7" - 16"	163	475	El Paso, TX
Four Corners crude system	Various	Various	4" - 10"	192	59	Galllup, NM
Green River crude system	Various	SLC Core Pipeline System	2" - 8"	139	23	N/A
Northern California crude system	Martinez, CA	Martinez, CA	5" - 24"	10	280	Martinez, CA
Salt Lake City Short Haul crude system	Salt Lake City, UT	Salt Lake City, UT	8" - 16"	5	118	Salt Lake City, UT
Southern California crude system[b]	LA Basin, CA	LA Basin, CA	8" - 42"	37	711	Los Angeles, CA
St. Paul Park Cottage Grove crude system	Minneapolis-Saint Paul, MN	Minneapolis-Saint Paul, MN	12" - 16"	5	107	St. Paul Park, MN
Tesoro High Plains crude system	Various	Various	2" - 16"	908	350	Mandan, ND
TexNewMex crude system	Four Corners Crude System	Delaware Basin Crude System	12" - 16"	438	365	El Paso, TX
Salt Lake City Core crude system	Various	Various	3" - 10"	575	50	Salt Lake City, UT
Inactive Pipelines				563	N/A	
Total				3,163	2,558	
Products pipeline systems (mbpd):						
Tesoro Alaska products system	Kenai, AK	Anchorage, AK	8" - 10"	69	43	Kenai, AK
Northern California products system	Martinez, CA	Martinez, CA	8"- 16"	4	160	Martinez, CA
Northwest Products Pipeline system	Salt Lake City, UT	Various	4" - 8"	1,102	107	Salt Lake City, UT
Salt Lake City Short Haul products system	Salt Lake City, UT	Northwest Products Pipeline system	6" - 10"	10	124	Salt Lake City, UT
Southern California products system	LA Basin, CA	LA Basin, CA	4" - 16"	100	489	Los Angeles, CA
Wingate system	McKinley, NM	McKinley, NM	4"	14	7	Gallup, NM
Inactive Pipelines				106	N/A	
Total				1,405	930	
Water pipeline systems (mbpd):						
Belfield water system	Various	Various	4" - 8"	103	20	
Green River water system	Sublette, WY	Sublette, WY	3" - 4"	11	15	
Total				114	35	
Barge Docks (mbpd)[c]					2,832	Various
Storage assets (thousand barrels):						
Tank Farms					48,449	
Caverns					450	
Total					48,899	

(a) All capacities reflect 100 percent of the pipeline systems' and barge dock's average capacity in thousands of barrels per day and 100 percent of the available storage capacity of our caverns and tank farms in thousands of barrels.

(b) Includes portions leased from third parties.

(c) Includes a dock leased from a third party.

As of December 31, 2018, ANDX had partial ownership interests in the following pipeline companies.

Pipeline Company	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Ownership Interest	Operated by ANDX
Crude oil pipeline companies:						
Rangeland Rio Pipeline LLC	Mentone, TX	Midland County, TX	12"	112	67%	Yes
Minnesota Pipe Line Company LLC	Clearbrook, MN	Minneapolis-Saint Paul, MN	16"	1,073	17%	No
Total				1,185		
NGL pipeline companies:						
Rendezvous Gas Services System	Sweetwater County, WY	Sweetwater County, WY and Uintah County, WY	2" - 30"	327	78%	Yes
Three Rivers System	Duchesne County, UT and Uintah County, UT	Uintah County, UT	6" - 16"	52	50%	Yes
Uintah Basin Field Services	Uintah County, UT	Uintah County, UT	8" - 12"	90	38%	Yes
Total				469		

The following table sets forth details about ANDX owned and operated terminals as of December 31, 2018. Additionally, ANDX operates one leased terminal and has partial ownership interest in one terminal.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (*thousand barrels*)
Light Products Terminals:		
Alaska	4	1,523
California	9	5,608
Idaho	3	989
Minnesota	1	526
New Mexico	3	778
North Dakota	3	—
Utah	2	29
Washington	5	1,063
Subtotal light products terminals	30	10,516
Asphalt Terminals		
Arizona	3	264
California	3	720
Minnesota	1	794
Nevada[a]	1	250
New Mexico	1	38
Texas	1	204
Subtotal asphalt terminals	10	2,270
Crude Terminals		
California	1	117
New Mexico	1	352
North Dakota	1	520
Washington	1	—
Subtotal crude terminals	4	989
Total owned and operated terminals	44	13,775

(a) ANDX accounts for as an equity method investment.

The following tables set forth certain information relating to ANDX's gas processing facilities, fractionation facilities and natural gas gathering systems as of December 31, 2018, and include capacities and throughputs related to operated equity method investments on a 100 percent basis.

Gas Processing Complexes	Location	Design Throughput Capacity (*MMcf/d*)	Natural Gas Throughput (*MMcf/d*)[a]	Utilization of Design Capacity
Belfield Complex	Stark County, ND	40	18	46%
Robinson Lake Complex	Mountrail County, ND	130	122	94%
24B Plant Complex	Uintah County, UT	140	—	—%
Emigrant Trail Complex	Uintah County, WY	55	29	53%
Stagecoach/Iron Horse Complex	Uintah County, UT	510	144	28%
Blacks Fork Complex	Uintah County, WY	795	348	44%
Vermillion Complex	Sweetwater County, WY	57	49	85%
Total		1,727	710	41%

(a) Natural gas throughput is a weighted average for days in operation.

Fractionation & Condensate Stabilization Complexes	Location	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)[(a)]	Utilization of Design Capacity
Blacks Fork Fractionator	Uintah County, WY	15	3	20%
Robinson Lake Fractionator	Mountrail County, ND	12	10	89%
Belfield Fractionator	Stark County, ND	7	5	62%
LaBarge Liquids Complex	Lincoln County, WY	40	13	32%
Pinedale Liquids Complex	Sublette County, WY	6	3	48%
		80	34	43%

(a) NGL throughput is a weighted average for days in operation.

Natural Gas Gathering Systems	Location	Design Throughput Capacity (*MMcf/d*)	Natural Gas Throughput (*MMcf/d*)[(a)]	Utilization of Design Capacity
Belfield System	Stark County, ND	40	18	46%
Robinson Lake System	Mountrail County, ND	130	122	94%
Williston Basin System	McLean County, ND	3	1	19%
Green River System	Sublette County, WY and Uintah County, WY	737	399	54%
Rendevous Gas Services System[(b)]	Sweetwater County, WY	1,032	502	49%
Rendevous Pipeline	Sublette County, WY	450	253	56%
Three Rivers System[(b)]	Duchesne County, UT and Uintah County, UT	212	63	30%
Uinta Basin Field Services[(b)]	Uintah County, UT	26	10	37%
Uintah Basin System	Uintah County, UT	299	156	52%
Vermillion System	Daggett County, UT, Sweetwater County, WY and Moffat County, CO	212	94	44%
		3,141	1,618	52%

(a) Natural gas throughput is a weighted average for days in operation.
(b) ANDX accounts for as an equity method investment.

The following tables set forth certain information relating to ANDX's NGL pipelines as of December 31, 2018.

NGL Pipelines	Location	Design Throughput Capacity (*mbpd*)	NGL Throughput (*mbpd*)	Utilization of Design Capacity
Ironhorse to Dinosaur 8" NGL	Uintah County, UT	15	4	25%
Logistics Hub NGL Pipeline	McKenzie County, ND	20	0.7	4%

MIDSTREAM - MPC-RETAINED ASSETS AND INVESTMENTS

The following tables set forth certain information related to our crude and products pipeline systems not owned by MPLX or ANDX.

As of December 31, 2018, we owned undivided joint interests in the following common carrier crude oil pipeline systems.

Pipeline System	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Ownership Interest	Operated by MPL
Capline	St. James, LA	Patoka, IL	40"	644	33%	Yes
Maumee	Lima, OH	Samaria, MI	22"	95	26%	No
Total				739		

As of December 31, 2018, we had partial ownership interests in the following pipeline companies.

Pipeline Company	Origin	Destination	Diameter (*inches*)	Length (*miles*)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:						
LOOP[(a)]	Offshore Gulf of Mexico	Clovelly, LA	48”	48	10%	No
Products pipeline companies:						
Ascension Pipeline Company LLC	Riverside, LA	Garyville, LA	16"	32	50%	No
Centennial Pipeline LLC[(b)]	Beaumont, TX	Bourbon, IL	24”-26”	796	50%	Yes
Muskegon Pipeline LLC	Griffith, IN	Muskegon, MI	10”	170	60%	Yes
Wolverine Pipe Line Company	Chicago, IL	Bay City & Ferrysburg, MI	6”-16”	796	6%	No
Total				1,794		

(a) Represents interest retained by MPC and excludes MPLX’s 41% ownership interest in LOOP. Pipeline mileage is excluded from total as it is included with MPLX assets.
(b) All system pipeline miles are inactive.

The following table provides information on private crude oil pipelines and private products pipelines that we own as of December 31, 2018.

Private Pipeline Systems	Diameter (*inches*)	Length (*miles*)	Capacity (*mbpd*)
Crude oil pipeline systems:			
Middle Ground Shoals Pipeline	12"	4	11
Inactive pipelines		9	N/A
Total		13	11
Products pipeline systems:			
Illinois and Indiana pipeline systems	4”	59	11
Texas pipeline systems	8”	103	45
Inactive pipelines		62	N/A
Total		224	56

The following table sets forth details about the assets held by two ocean vessel joint ventures in which we hold a 50% interest as of December 31, 2018.

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

(a) Represents ownership through our indirect noncontrolling interest in Crowley Ocean Partners.
(b) Represents ownership through our indirect noncontrolling 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. Some of these matters are discussed below.

Litigation

We are a party to a number of lawsuits and other proceedings and cannot predict the outcome of every such matter with certainty. 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.

Between June 20 and July 11, 2018, six putative class actions (the "Actions") were filed against some or all of Andeavor, the directors of Andeavor, and MPC, Mahi Inc. ("Merger Sub 1") and Mahi LLC (n/k/a Andeavor LLC) ("Merger Sub 2" and, together with MPC and Merger Sub 1, the "MPC Defendants"), relating to the Andeavor merger. Two complaints, Malka Raul v. Andeavor, et al., and Stephen Bushansky v. Andeavor, et al., were filed in the U.S. District Court for the Western District of Texas. Four complaints, captioned The Vladimir Gusinsky Rev. Trust v. Andeavor, et al., Lawrence Zucker v. Andeavor, et al., Mel Gross v. Andeavor, et al., and Hudson v. Andeavor, et al. were filed in the U.S. District Court for the District of Delaware. The Actions generally alleged that Andeavor, the directors of Andeavor and the MPC Defendants disseminated a false or misleading registration statement regarding the merger in violation of Section 14(a) of the Exchange Act and Rule 14a-9 promulgated thereunder. Specifically, the Actions alleged that the registration statement filed by MPC misstated or omitted material information regarding the parties' financial projections and the analyses performed by Andeavor's and MPC's respective financial advisors, and that disclosure of material information was necessary in light of preclusive deal protection provisions in the merger agreement, the financial interests of Andeavor's officers and directors in completing the deal, and the financial interests of Andeavor's and MPC's respective financial advisors. The Actions further alleged that the directors of Andeavor and/or the MPC Defendants were liable for these violations as "controlling persons" of Andeavor under Section 20 (a) of the Exchange Act. The Actions sought injunctive relief, including to enjoin and/or rescind the merger, damages in the event the merger was consummated, and an award of attorneys' fees, in addition to other relief.

On July 5 and July 20, 2018, MPC filed amendments to its Registration Statement on Form S-4, which included certain supplemental disclosures responding to allegations made by the plaintiffs. On August 3, 2018, Andeavor filed its proxy statement, and after that date, the parties had numerous discussions regarding the adequacy of disclosures. The parties ultimately reached an agreement in principle to resolve the Actions in exchange for additional supplemental disclosures. Consistent with that agreement, Andeavor and MPC each filed a Current Report on Form 8-K on September 14, 2018 that included certain additional disclosures in response to plaintiffs' allegations. Between September 21 and September 28, 2018, all the Actions were dismissed as moot, and the parties reserved their rights in the event of any dispute over attorneys' fees and expenses. In the fourth quarter of 2018, the Company resolved the remaining disputes over attorneys' fees for an amount that was not material to the Company.

In May 2015, the Kentucky attorney general filed a lawsuit against our wholly-owned subsidiary, Marathon Petroleum Company LP ("MPC LP"), in the United States District Court for the Western District of Kentucky asserting claims under federal and state antitrust statutes, the Kentucky Consumer Protection Act, and state common law. The complaint, as amended in July 2015, alleges that MPC LP used deed restrictions, supply agreements with customers and exchange agreements with competitors to unreasonably restrain trade in areas within Kentucky and seeks declaratory relief, unspecified damages, civil penalties, restitution and disgorgement of profits. At this stage, the ultimate outcome of this litigation remains uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined, and we are unable to estimate a reasonably possible loss (or range of loss) for this matter. We intend to vigorously defend ourselves in this matter.

In May 2007, the Kentucky attorney general filed a lawsuit against us and Marathon Oil in state court in Franklin County, Kentucky for alleged violations of Kentucky's emergency pricing and consumer protection laws following Hurricanes Katrina and Rita in 2005. The lawsuit alleges that we overcharged customers by $89 million during September and October 2005. The complaint seeks disgorgement of these sums, as well as penalties, under Kentucky's emergency pricing and consumer protection laws. We are vigorously defending this litigation. We believe that this is the first lawsuit for damages and injunctive relief under the Kentucky emergency pricing laws to progress this far and it contains many novel issues. In May 2011, the Kentucky attorney general amended his complaint to include a request for immediate injunctive relief as well as unspecified damages and penalties related to our wholesale gasoline pricing in April and May 2011 under statewide price controls that were activated by the Kentucky governor on April 26, 2011 and which have since expired. The court denied the attorney general's request for immediate injunctive relief, and the remainder of the 2011 claims likely will be resolved along with those dating from 2005. If the lawsuit is resolved unfavorably in its entirety, it could materially impact our consolidated results of operations, financial position or cash flows. However, management does not believe the ultimate resolution of this litigation will have a material adverse effect on our consolidated financial position, results of operations, or cash flows.

Environmental Proceedings

As previously reported, MarkWest Liberty Midstream, Ohio Fractionation and MarkWest Utica EMG, together with other MarkWest affiliates, agreed to pay a penalty of approximately $0.9 million, undertake certain monitoring and emission reduction projects at certain facilities with an estimated cost of approximately $3.3 million, and implement certain process enhancements for its and its affiliates' leak detection and repair programs at its gas processing and fractionation sites. On November 1, 2018, the Partnership and 11 of its subsidiaries entered into a Consent Decree with the EPA, the State of Oklahoma, the Pennsylvania Department of Environmental Protection and the State of West Virginia resolving these issues. The Consent Decree was approved by the court on January 8, 2019 and the penalty has been paid.

Governmental and other entities in California, New York, Maryland and Rhode Island have filed lawsuits against coal, gas, oil and petroleum companies, including the Company. 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. 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.

On February 7, 2019, we received an offer to settle seven NOVs from CARB. The NOVs were issued to the Los Angeles refinery in 2017, alleging violations of the state's summer RVP limits. While we are negotiating a settlement of the allegations with CARB, we cannot currently estimate the timing of the resolution of this matter.

On February 5, 2019, we received an offer to settle seven NOVs from CARB. The NOVs were issued to the Los Angeles refinery in 2018, alleging the refinery produced fuel which exceeded its reported olefin values. While we are negotiating a settlement of the allegations with CARB, we cannot currently estimate the timing of the resolution of this matter.

On October 19, 2018, Western Refining Southwest, Inc. received an offer from the U.S. EPA to settle alleged violations of the Resource Conservation and Recovery Act regulations. While we are negotiating a settlement of the allegations with the EPA, we cannot currently estimate the timing of the resolution of this matter.

In March 2016, the EPA conducted a Risk Management Program inspection at our Gallup refinery and issued an Inspection Report on April 7, 2016 identifying Areas of Concern. While we are working with the EPA to address the Areas of Concern, we cannot currently estimate the timing of the resolution of this matter.

On March 8, 2018, Tesoro Refining and Marketing LLC ("TRMC") received an offer to settle allegations by the CARB relating to the state's Greenhouse Gas Reporting Standards. The CARB allegations relate to the self-disclosure and correction of reported greenhouse gas emissions emitted by the Los Angeles refinery Calciner Unit from May 9, 2014 to June 12, 2017. We have reached an agreement in principle to pay a penalty of $425,000 and undertake a supplemental environmental project at a cost of $425,000. We expect to finalize the agreement in the first quarter of 2019.

On April 6, 2018, TRMC received an offer to settle five Notices of Violation ("NOV") from the South Coast Air Quality Management District. The NOVs were issued to the Los Angeles refinery between June and October 2017, alleging violations of various federal and district air emission regulations. We have reached an agreement to pay a penalty of $75,000 and undertake certain supplemental environmental projects with an estimated cost of $75,000.

On February 12, 2016, TRMC received an offer to settle 35 NOVs received from the Bay Area Air Quality Management District ("BAAQMD"). The NOVs were issued from May 2011 to November 2015 and allege violations of air quality regulations for ground level monitors located at our Martinez refinery. While we are negotiating a settlement of the allegations with the BAAQMD, we cannot currently estimate the timing of the resolution of this matter.

On July 18, 2016, the U.S. Department of Justice ("DOJ") lodged a complaint on behalf of the EPA and a Consent Decree with the Western District Court 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 February 2018, TRMC informed the EPA that it would need additional time to satisfy requirements of the Consent Decree. We are currently negotiating a resolution of this matter with the DOJ and the EPA, including the required timing to complete the project.

On June 14, 2018, TRMC received an offer to settle an NOV issued by the CARB in May 2018. The NOV was issued in response to TRMC having reported in December 2017 that certain batches of gasoline produced in December 2017 did not meet California fuel standards. On October 1, 2018, TRMC reached an agreement with CARB to settle this NOV for $157,500.

The naphtha hydrotreater unit at the Washington refinery was involved in a fire in April 2010, which fatally injured seven employees and rendered the unit inoperable. The Washington State Department of Labor & Industries ("L&I") investigated the incident and issued a citation in October 2010 with an assessed fine of approximately $2 million. Andeavor appealed the citation in January 2011 as it disagreed with L&I's characterizations of operations at the refinery and believed that many of the agency's conclusions were mistaken. In separate September 2013, November 2013 and February 2015 orders, the Board of Industrial Insurance Appeals ("BIIA") granted partial summary judgment in Andeavor's favor rejecting 33 of the original 44 allegations in the citation as lacking legal or evidentiary support. The hearing on the remaining 11 allegations concluded in July 2016. On June 8, 2017, the BIIA Judge issued a proposed decision and order vacating the entire citation, which L&I and the United Steel Workers ("USW") appealed. On September 18, 2017, the BIIA granted L&I and USW's petitions for review of the BIIA judge's June 8, 2017 proposed decision and order. On January 25, 2018, the BIIA issued an order remanding 12 of the allegations for further proceedings. Proceedings regarding the 12 remanded citations are ongoing.

We are involved in a number of other environmental proceedings arising in the ordinary course of business. While the ultimate outcome and impact on us cannot be predicted with certainty, we believe the resolution of these environmental proceedings will not have a material adverse effect 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 15, 2019, there were 32,353 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, 2018, of equity securities that are registered by MPC pursuant to Section 12 of the Securities Exchange Act of 1934, as amended:

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)]
10/01/18-10/31/18	36,701	$ 82.02	—	$ 5,579,603,383
11/01/18-11/30/18	3,145,000	63.75	3,138,171	5,379,603,637
12/01/18-12/31/18	7,812,656	60.86	7,804,590	4,904,604,184
Total	10,994,357	61.76	10,942,761	

(a) The amounts in this column include 36,701, 6,829 and 8,066 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 purchased 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 on shares purchased under our share repurchase authorizations.

(c) On April 30, 2018, we announced that our board of directors had approved a $5 billion share repurchase authorization in addition to the remaining authorization pursuant to the May 31, 2017 announcement. These share purchase authorizations have no expiration date. The share repurchase authorization announced on April 30, 2018, together with prior authorizations, result in a total of $18 billion of share repurchase authorizations since January 1, 2012.

ITEM 6. SELECTED FINANCIAL DATA

The following table should be read in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8. Financial Statements and Supplementary Data.

	Year Ended December 31,				
(In millions, except per share data)	2018[a]	2017[b]	2016	2015[a]	2014[a]
Statements of Income Data					
Sales and other operating revenue[c]	$ 96,504	$ 74,733	$ 63,339	$ 72,051	$ 97,817
Income from operations	5,571	4,018	2,386	4,708	4,149
Net income	3,606	3,804	1,213	2,868	2,555
Net income attributable to MPC	2,780	3,432	1,174	2,852	2,524
Net income attributable to MPC per share:					
Basic	$ 5.36	$ 6.76	$ 2.22	$ 5.29	$ 4.42
Diluted	$ 5.28	$ 6.70	$ 2.21	$ 5.26	$ 4.39
Dividends per share	$ 1.84	$ 1.52	$ 1.36	$ 1.14	$ 0.92
Statements of Cash Flows Data					
Net cash provided by operating activities	$ 6,158	$ 6,612	$ 4,017	$ 4,076	$ 3,130
Acquisitions, net of cash acquired[a]	3,822	249	—	1,218	2,821
Common stock repurchased	3,287	2,372	197	965	2,131
Dividends paid	954	773	719	613	524

	December 31,				
(In millions)	2018[a]	2017	2016	2015[a]	2014[a]
Balance Sheets Data					
Total assets	$ 92,940	$ 49,047	$ 44,413	$ 43,115	$ 30,425
Long-term debt, including capitalized leases[d]	27,524	12,946	10,572	11,925	6,602

(a) On October 1, 2018, we acquired Andeavor. On December 4, 2015, MPLX, our consolidated subsidiary, merged with MarkWest. On September 30, 2014, we acquired Hess' Retail Operations and Related Assets. The financial results for these operations are included in our consolidated results from the date of acquisition.

(b) Earnings for 2017 include a tax benefit of approximately $1.5 billion or $2.93 per diluted share as a result of re-measuring certain net deferred tax liabilities using the lower corporate tax rate enacted in the fourth quarter 2017.

(c) Includes sales to related parties. The 2018 period reflects an election to present certain taxes on a net basis concurrent with our adoption of ASU 2014-09, Revenue - Revenue from Contracts with Customers ("ASC 606").

(d) Includes amounts due within one year. During 2018, MPC assumed Andeavor senior notes with an aggregate principal amount of $3.374 billion and MPLX issued $7.75 billion aggregate principal amount of senior notes. MPLX used $4.1 billion of the net proceeds of the offering to repay the 364-day term loan facility drawn on in January to fund the cash portion of the consideration for the February 1, 2018 dropdown and used $750 million of the net proceeds to redeem the 5.500 percent senior notes due February 2023 issued by MPLX and MarkWest. Also included in 2018 are Andeavor Logistics senior notes with an aggregate principal amount of $3.75 billion. During 2017, MPLX issued $2.25 billion aggregate principal amount of senior notes and used the net proceeds to fund the $1.5 billion cash portion of the consideration paid to MPC for the dropdown of assets on March 1, 2017. During 2015, in connection with the MarkWest Merger, MPLX assumed MarkWest Senior Notes with an aggregate principal amount of $4.1 billion and used its credit facility to repay $850 million of the $943 million of borrowings under MarkWest's credit facility. During 2014, we issued $1.95 billion aggregate principal amount of senior notes and entered into a $700 million term loan agreement to fund a portion of the Hess' Retail Operations and Related Assets acquisition.

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 “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, Item 6. Selected Financial Data and Item 8. Financial Statements and Supplementary Data.

CORPORATE OVERVIEW

We are an independent petroleum refining and marketing, retail and midstream company. We own and operate the nation’s largest refining system through 16 refineries, located in the Gulf Coast, Mid-Continent and West Coast regions of the United States, with an aggregate crude oil refining capacity of approximately 3.0 mmbpcd. Our refineries supply refined products to resellers and consumers across the United States. We distribute refined products to our customers through transportation, storage, distribution and marketing services provided largely by our Midstream segment. We believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers in the United States.

We have three strong brands: Marathon®, Speedway® and ARCO®. The branded outlets, which primarily include the Marathon brand, are established motor fuel brands across the United States available through approximately 6,800 branded outlets operated by independent entrepreneurs in 35 states, the District of Columbia and Mexico. We believe our Retail segment operates the second largest chain of company-owned and operated retail gasoline and convenience stores in the United States, with approximately 3,920 convenience stores, primarily under the Speedway brand, and 1,065 direct dealer locations, primarily under the ARCO brand, across the United States.

We primarily conduct our midstream operations through our ownership interests in MPLX and ANDX, which own and operate crude oil and light product transportation and logistics infrastructure as well as gathering, processing, and fractionation assets. As of December 31, 2018, we owned, leased or had ownership interests in approximately 16,600 miles of crude oil and refined product pipelines to deliver crude oil to our refineries and other locations and refined products to wholesale and retail market areas. 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. 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 midstream gathering and processing operations include: natural gas gathering, processing and transportation; and NGL gathering, transportation, fractionation, storage and marketing. Our assets include approximately 9.9 bcf/d of gathering capacity, 11.0 bcf/d of natural gas processing capacity and 790 mbpd of fractionation capacity as of December 31, 2018.

Our operations consist of three reportable operating segments: Refining & Marketing; Retail; and Midstream. Each of these segments is organized and managed based upon the nature of the products and services they offer. See Item 1. Business for additional information on our segments.

- Refining & Marketing – refines crude oil and other feedstocks at our 16 refineries in the West Coast, Gulf Coast and Mid-Continent regions of the United States, purchases refined products and ethanol for resale and distributes refined products largely 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 our Retail business segment and to independent entrepreneurs who operate primarily Marathon® branded outlets.
- Retail – sells transportation fuels and convenience products in the retail market across the United States through company-owned and operated convenience stores, primarily under the Speedway brand, and 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 and ANDX, our sponsored master limited partnerships.

Recent Developments

Andeavor Acquisition

On October 1, 2018, we completed the Andeavor acquisition. Under the terms of the merger agreement, Andeavor stockholders had the option to choose 1.87 shares of MPC common stock or $152.27 in cash per share of Andeavor common stock. The merger agreement included election proration provisions that resulted in approximately 22.9 million shares of Andeavor common stock being converted into cash consideration and the remaining 128.2 million shares of Andeavor common stock being converted into stock consideration. Andeavor stockholders received in the aggregate approximately 239.8 million shares of MPC common stock valued at $19.8 billion and approximately $3.5 billion in cash in connection with the Andeavor acquisition. Through the Andeavor acquisition, we acquired the general partner and 156 million common units of ANDX, which is a publicly traded MLP that was formed to own, operate, develop and acquire logistics assets.

Andeavor was a highly integrated marketing, logistics and refining company operating primarily in the Western and Mid-Continent United States. Andeavor’s operations included procuring crude oil from its source or from other third parties, transporting the crude oil to one of its 10 refineries, and producing, marketing and distributing refined products. Its marketing system included more than 3,300 stations marketed under multiple well-known fuel brands including ARCO®. Also, as noted above, we acquired the general partner and 156 million common units of ANDX, a leading growth-oriented, full service, and diversified midstream company which owns and operates networks of crude oil, refined products and natural gas pipelines, terminals with crude oil and refined products storage capacity, rail loading and offloading facilities, marine terminals including storage, bulk petroleum distribution facilities, a trucking fleet and natural gas processing and fractionation complexes.

This transaction combined two strong, complementary companies to create a leading nationwide U.S. downstream energy company. The acquisition substantially increases our geographic diversification and scale and strengthens each of our operating segments by diversifying our refining portfolio into attractive markets and increasing access to advantaged feedstocks, enhancing our midstream footprint in the Permian Basin, and creating a nationwide retail and marketing portfolio all of which is expected to substantially improve efficiencies and our ability to serve customers. We expect the combination to generate up to approximately $1.4 billion in gross run-rate synergies within the first three years, significantly enhancing our long-term cash flow generation profile.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on other acquisitions and investments in affiliates.

MPLX Financing Activities

In November 2018, MPLX issued $2.25 billion in aggregate principal amount of senior notes in a public offering. In December 2018, a portion of the net proceeds from the offering was used to redeem the $750 million in aggregate principal amount of senior notes due February 2023 issued by MPLX and MarkWest. The remaining net proceeds have or will be used to repay borrowings under MPLX’s revolving credit facility and intercompany loan with MPC and for general partnership purposes.

EXECUTIVE SUMMARY

Results

Select results for 2018 and 2017 are reflected in the following table. The 2018 amounts include the results of Andeavor from the October 1, 2018 acquisition date forward.

(In millions, except per share data)	2018	2017
Income from operations by segment		
Refining & Marketing	$ 2,481	$ 2,321
Retail	1,028	729
Midstream	2,752	1,339
Items not allocated to segments	(690)	(371)
Income from operations	$ 5,571	$ 4,018
(Benefit) provision for income taxes	$ 962	$ (460)
Net income attributable to MPC	$ 2,780	$ 3,432
Net income attributable to MPC per diluted share	$ 5.28	$ 6.70

Net income attributable to MPC decreased $652 million, or $1.42 per diluted share, in 2018 compared to 2017. Increased income from operations was more than offset by the absence of a tax benefit of $1.5 billion resulting from the TCJA in 2017 and increased net income attributable to noncontrolling interests in 2018. Refer to the Results of Operations section for a discussion of financial results by segment for the three years ended December 31, 2018.

MPLX and ANDX

On February 1, 2018, we contributed our refining logistics assets and fuels distribution services to MPLX in exchange for $4.1 billion in cash and approximately 114 million newly issued MPLX units. Immediately following the dropdown, our IDRs were cancelled and our economic general partner interest was converted into a non-economic general partner interest, all in exchange for 275 million newly issued MPLX common units. MPLX financed the cash portion of the February 1, 2018 dropdown with its $4.1 billion 364-day term loan facility, which was entered into on January 2, 2018. On February 8, 2018, MPLX issued $5.5 billion in aggregate principal amount of senior notes in a public offering. MPLX used $4.1 billion of the net proceeds of the offering to repay the 364-day term-loan facility. The remaining proceeds were used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with us and for general partnership purposes.

The following table summarizes the cash distributions we received from MPLX during 2018 and 2017 and ANDX distributions received after the October 1, 2018 acquisition of Andeavor.

(In millions)	2018	2017
Cash distributions received:		
Limited partner distributions - MPLX	$ 1,097	$ 197
Limited partner distributions - ANDX	146	—
General partner distributions, including IDRs - MPLX	—	301
Total	$ 1,243	$ 498

We owned approximately 505 million MPLX common units at December 31, 2018 with a market value of $15.29 billion based on the December 31, 2018 closing unit price of $30.30. On January 25, 2019, MPLX declared a quarterly cash distribution of $0.6475 per common unit, which was paid February 14, 2019. As a result, MPLX made distributions totaling $514 million to its common unitholders. MPC's portion of this distribution was approximately $327 million.

We owned approximately 156 million ANDX common units at December 31, 2018 with a market value of $5.07 billion based on the December 31, 2018 closing unit price of $32.49. On January 25, 2019, ANDX declared a quarterly cash distribution of $1.03 per common unit, which was paid February 14, 2019. As a result, ANDX made distributions totaling $238 million to its common unitholders. MPC's portion of this distribution was approximately $146 million.

See Item 8. Financial Statements and Supplementary Data – Note 4 for additional information on MPLX and ANDX.

Share Repurchases

During the year ended December 31, 2018, we returned $3.29 billion to our shareholders through repurchases of 47 million shares of common stock at an average price per share of $69.46. These repurchases were funded primarily by after tax proceeds from the February 1, 2018 dropdown to MPLX.

Since January 1, 2012, our board of directors has approved $18.0 billion in total share repurchase authorizations and we have repurchased a total of $13.10 billion of our common stock, leaving $4.9 billion available for repurchases as of December 31, 2018. Under these authorizations, we have acquired 293 million shares at an average cost per share of $44.60.

Liquidity

As of December 31, 2018, we had cash and cash equivalents of $1.61 billion, excluding MPLX's and ANDX's cash and cash equivalents of $68 million and $10 million, respectively, and no borrowings or letters of credit outstanding under our $6.0 billion bank revolving credit facilities or under our $750 million trade receivables securitization facility ("trade receivables facility"). As of December 31, 2018, eligible trade receivables supported borrowings of $750 million under the trade receivable facility. As of December 31, 2018, MPLX had approximately $2.25 billion available under its $2.25 billion revolving credit agreement and $1 billion available through its intercompany loan agreement with MPC. As of December 31, 2018, ANDX had $855 million available under its $2.10 billion revolving credit agreements and $500 million available through its intercompany loan agreement with MPC.

See Item 8. Financial Statements and Supplementary Data – Note 19 for information on our new bank revolving credit facilities.

OVERVIEW OF SEGMENTS

Refining & Marketing

Refining & Marketing segment income from operations depends largely on our Refining & Marketing margin and refinery throughputs. Our total refining capacity was 3,021 mbpcd, 1,881 mbpcd and 1,817 mbpcd as of December 31, 2018, 2017 and

2016, respectively. The increase in 2018 was primarily due to the acquisition of Andeavor on October 1, 2018, which added 10 refineries with approximately 1,117 mbpcd of total refining capacity.

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 West Coast, Mid-Continent and Gulf 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 West Coast crack spread uses three barrels of ANS crude producing two barrels of LA CARBOB and one barrel of LA CARB Diesel;
- 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 Gulf Coast Crack Spread uses three barrels of LLS crude producing two barrels of USGC CBOB gasoline and one barrel of USGC ULSD.

Our refineries can process significant amounts of sour crude oil, which typically can be purchased at a discount to sweet crude oil. The amount of this discount, the sweet/sour differential, can vary significantly, causing our Refining & Marketing margin to differ from crack spreads based on sweet crude oil. In general, a larger sweet/sour differential 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 net income due to potential changes in market conditions.

(In millions, after-tax)		
Blended crack spread sensitivity[(a)] *(per $1.00/barrel change)*	$	900
Sour differential sensitivity[(b)] *(per $1.00/barrel change)*		450
Sweet differential sensitivity[(c)] *(per $1.00/barrel change)*		370
Natural gas price sensitivity[(d)] *(per $1.00/MMBtu)*		300

(a) Crack spread based on 38 percent WTI, 38 percent LLS and 24 percent ANS with Mid-Continent, Gulf Coast 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, ASCI, Maya and Western Canadian Select
(c) Sweet crude oil basket consists of the following crudes: Bakken, Brent, LLS, WTI-Cushing and WTI-Midland
(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; and
- the potential impact of LCM adjustments to inventories in periods of declining prices.

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, 2018, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory market 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 income from operations is also affected by changes in refinery direct operating costs, which include turnaround and major maintenance, depreciation and amortization and other manufacturing expenses. Changes in manufacturing costs are primarily driven by the cost of energy used by our refineries, including purchased natural gas, and the level of maintenance costs. Planned major maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. The following table lists the refineries that had significant planned turnaround and major maintenance activities for each of the last three years and only reflects the activity for the acquired refineries after October 1, 2018.

Year	Refinery
2018	Canton, Detroit, Galveston Bay and Martinez
2017	Catlettsburg, Galveston Bay and Garyville
2016	Galveston Bay, Garyville and Robinson

We have various long-term, fee-based commercial agreements with MPLX and ANDX. Under these agreements, MPLX and ANDX, which are reported in our Midstream segment, provide 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.

Retail

Our Retail fuel margin for gasoline and distillate, which is the price paid by consumers or direct dealers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees (where applicable), impacts the Retail segment profitability. Gasoline and distillate prices are volatile and are impacted by changes in supply and demand in the regions where we operate. Numerous factors impact gasoline and distillate demand throughout the year, including local competition, seasonal demand fluctuations, the available wholesale supply, the level of economic activity in our marketing areas and weather conditions. According to current estimates, 2018 gasoline demand remained at 9.3 million barrels per day for the third consecutive year. Headwinds from a four-year high in average gasoline prices during 2018 offset the gasoline demand support from continuing economic growth and slowing fleet fuel efficiency gains. Meanwhile, distillate demand was up for the second consecutive year on continuing economic growth in 2018, rising 5.2 percent from 2017 to the highest level since 2007 and the third highest U.S. demand level ever. Truck tonnage posted its largest annual increase since 1998, rising 6.6 percent year over year in 2018, while port container traffic (at the 10 largest U.S. ports), grew 4.5 percent year over year in 2018 (through November). The margin on merchandise sold at our convenience stores historically has been less volatile and has contributed substantially to our Retail segment margin. Almost half of our Retail margin was derived from merchandise sales in 2018. This percentage decreased from 2017 due to the addition of long-term fuel supply contracts with direct dealers and fuel only locations as part of the Andeavor acquisition. Our Retail convenience stores offer a wide variety of merchandise, including prepared foods, beverages and non-food items.

Inventories are carried at the lower of cost or market value. Costs of refined products and merchandise 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. As of December 31, 2018, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory market 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.

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 and 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 and ANDX, which are reported in our Midstream segment, have various long-term, fee-based commercial agreements related to services provided to our Refining & Marketing segment. Under these agreements, MPLX and ANDX have 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.

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, 2018, 2017 and 2016. The 2018 amounts include the results of Andeavor from the October 1, 2018 acquisition date forward. 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

(In millions)	2018	2017	2018 vs. 2017 Variance	2016	2017 vs. 2016 Variance
Revenues and other income:					
Sales and other operating revenues[(a)]	$ 95,750	$ 74,104	$ 21,646	$ 63,277	$ 10,827
Sales to related parties	754	629	125	62	567
Income (loss) from equity method investments	373	306	67	(185)	491
Net gain on disposal of assets	23	10	13	32	(22)
Other income	202	320	(118)	178	142
Total revenues and other income	97,102	75,369	21,733	63,364	12,005
Costs and expenses:					
Cost of revenues (excludes items below)[(a)]	85,456	66,519	18,937	56,676	9,843
Purchases from related parties	610	570	40	509	61
Inventory market valuation adjustment	—	—	—	(370)	370
Impairment expense	—	—	—	130	(130)
Depreciation and amortization	2,490	2,114	376	2,001	113
Selling, general and administrative expenses	2,418	1,694	724	1,597	97
Other taxes	557	454	103	435	19
Total costs and expenses	91,531	71,351	20,180	60,978	10,373
Income from operations	5,571	4,018	1,553	2,386	1,632
Net interest and other financial costs	1,003	674	329	564	110
Income before income taxes	4,568	3,344	1,224	1,822	1,522
(Benefit) provision for income taxes	962	(460)	1,422	609	(1,069)
Net income	3,606	3,804	(198)	1,213	2,591
Less net income (loss) attributable to:					
Redeemable noncontrolling interest	75	65	10	41	24
Noncontrolling interests	751	307	444	(2)	309
Net income attributable to MPC	$ 2,780	$ 3,432	$ (652)	$ 1,174	$ 2,258

(a) We adopted ASU 2014-09, Revenue - Revenue from Contracts with Customers (“ASC 606”) as of January 1, 2018, and elected to report certain taxes on a net basis. We adopted the standard using the modified retrospective method, and, therefore, comparative information continues to reflect certain taxes on a gross basis. See Item 8. Financial Statements and Supplementary Data - Notes 2 and 3 for further information.

2018 Compared to 2017

Net income attributable to MPC decreased $652 million. Increased income from operations was more than offset by a tax benefit of $1.5 billion resulting from the TCJA in 2017 and increased income attributable to noncontrolling interests in 2018. See Segment Results for additional information.

Total revenues and other income increased $21.73 billion in 2018 compared to 2017 primarily due to:

- increased sales and other operating revenues of $21.65 billion mainly due to an increase in our Refining & Marketing segment refined product sales volumes, which increased 402 mbpd, and higher averaged refined product sales prices, which increased $0.34 per gallon. The increase in volume is largely due to the Andeavor acquisition on October 1, 2018. These increases were partially offset by our election to present revenues net of certain taxes under ASC 606 prospectively from January 1, 2018, which resulted in a decrease in revenues of $6.66 billion for the year. See Item 8.

Financial Statements and Supplementary Data – Notes 2 and 3 for additional information on recently adopted accounting standards;
- increased sales to related parties of $125 million primarily due to higher average refined product prices;
- increased income from equity method investments of $67 million primarily due to an increase in income from midstream equity affiliates; and
- decreased other income of $118 million primarily due to a decrease in RIN sales.

Total costs and expenses increased $20.18 billion in 2018 compared to 2017 primarily due to:
- increased cost of revenues of $18.94 billion primarily due to:
  - an increase in refined product cost of sales of $24.97 billion, primarily due to increased operations following the acquisition of Andeavor along with higher raw material costs attributable to an increase in our average crude oil costs of $13.87 per barrel; and
  - a decrease in certain taxes of $6.66 billion as a result of our election to present revenues net of certain taxes under ASC 606 prospectively from January 1, 2018. For the year, certain taxes continue to be presented on a gross basis and are included in cost of revenues. See Item 8. Financial Statements and Supplementary Data – Notes 2 and 3 for additional information on recently adopted accounting standards;
- increased depreciation and amortization of $376 million, primarily due to the depreciation of the fair value of the assets acquired in connection with the Andeavor acquisition;
- increased selling, general and administrative expenses of $724 million primarily due to approximately $197 million of transaction related costs for financial advisors, employee severance and other costs associated with the Andeavor acquisition in addition to increased costs and expenses for the combined company; and
- increased other taxes of $103 million primarily due to the inclusion of other taxes related to the acquired Andeavor operations.

Net interest and other financial costs increased $329 million mainly due to increased MPLX borrowings and debt assumed in the acquisition of Andeavor. In addition, MPLX recognized $60 million of debt extinguishment costs in 2018 in connection with the redemption of its $750 million of senior notes due in 2023. We capitalized interest of $80 million in 2018 and $55 million in 2017. See Item 8. Financial Statements and Supplementary Data – Note 19 for further details.

Provision for income taxes increased $1.42 billion primarily due to the absence of a tax benefit of $1.5 billion in 2017 resulting from the TCJA and an increase in our income before income taxes, which increased $1.22 billion. The effective tax rate of 21 percent in 2018 is consistent with the U.S. statutory rate of 21 percent, as permanent benefit differences related to income attributable to noncontrolling interest were offset by state and local tax expense. In 2017, our effective tax rate was impacted by 45 percentage points as a result of the TCJA which decreased our effective tax rate from 31 percent to (14) percent. The effective tax rate, excluding the TCJA, of 31 percent in 2017 was slightly less than the U.S. statutory rate of 35 percent primarily due to certain permanent benefit differences, including differences related to net income attributable to noncontrolling interests and the domestic manufacturing deduction, partially offset by state and local tax expense. See Item 8. Financial Statements and Supplementary Data – Note 12 for further details.

Noncontrolling interests increased $454 million due to higher MPLX net income resulting primarily from the February 1, 2018 dropdown transaction, partially offset by the reduced ownership in MPLX held by noncontrolling interests following the GP/IDR Exchange. Noncontrolling ownership in MPLX decreased to 36.4 percent at December 31, 2018 from 69.6 percent at December 31, 2017. In addition, 2018 reflects $68 million of net income attributable to the noncontrolling interest in ANDX of 36.4 percent for the period from October 1, 2018 through the end of the year.

2017 Compared to 2016

Net income attributable to MPC increased $2.26 billion in 2017 compared to 2016 primarily due to a tax benefit of $1.5 billion resulting from the TCJA enacted in the fourth quarter of 2017 and an increase in our Refining & Marketing segment income from operations of $964 million. See Segment Results for additional information.

Total revenues and other income increased $12.01 billion in 2017 compared to 2016 primarily due to:
- increased sales and other operating revenues (including consumer excise taxes) of $10.83 billion primarily due to higher averaged refined product sales prices, which increased $0.25 per gallon, and an increase in refined product sales volumes, which increased 42 mbpd;
- increased sales to related parties of $567 million mainly due to sales from our Refining & Marketing segment to PFJ Southeast, a joint venture with Pilot Flying J, which commenced in the fourth quarter of 2016;

- increased income (loss) from equity method investments of $491 million primarily due to the absence of impairment charges related to equity method investments of $356 million recorded in 2016 along with increases in income from new and existing pipeline, natural gas, retail and marine affiliates;
- increased other income of $142 million primarily due to increased RIN sales; and
- decreased net gain on disposal of assets of $22 million primarily due to gains on the sale of certain Speedway locations in 2016.

Total costs and expenses increased $10.37 billion in 2017 compared to 2016 primarily due to:

- increased cost of revenues of $9.84 billion primarily due to an increase in refined product cost of sales of $9.18 billion, primarily attributable to an increase in our average crude oil costs of $9.50 per barrel;
- increased purchases from related parties of $61 million primarily due to:
    - an increase in transportation services provided by Crowley Ocean Partners of $27 million;
    - an increase in transportation services provided by Crowley Blue Water Partners of $23 million; and
    - an increase in volumes purchased from LOOP of $12 million;
- an inventory market valuation adjustment which decreased costs and expenses by $370 million in 2016 related to the reversal of the LCM inventory valuation reserve due to increased refined product prices;
- decreased impairment expense of $130 million as the impairment expense in 2016 reflects a $130 million charge recorded by MPLX to impair a portion of the $2.21 billion of goodwill recorded in connection with the MarkWest Merger; and
- increased selling, general and administrative expenses of $97 million primarily due to increases in employee-related compensation and benefit expenses, higher corporate costs and net litigation settlement expenses of $29 million.

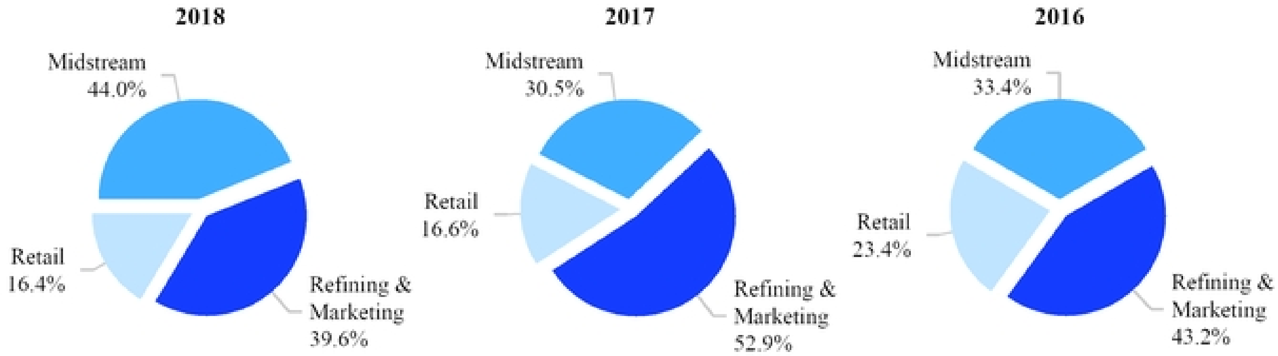
Net interest and other financial costs increased $110 million in 2017 compared to 2016 mainly due to the MPLX senior notes issued in February 2017 and a $45 million increase in pension settlement expenses, partially offset by decreased borrowings on the MPC term loan agreement. We capitalized interest of $55 million in 2017 and $63 million in 2016. See Item 8. Financial Statements and Supplementary Data – Note 19 for further details.

Provision for income taxes decreased $1.07 billion in 2017 compared to 2016. The TCJA was signed into law on December 22, 2017 and provided several key changes to U.S. tax law, including a federal corporate tax rate of 21 percent replacing the 2017 rate applicable to MPC of 35 percent. MPC was required to calculate the effect of the TCJA on its deferred tax balances as of the enactment date. The effect of the federal corporate income tax rate change reduced net deferred tax liabilities by $1.5 billion in 2017. This benefit was partially offset by an increase in our income before income taxes, which increased $1.52 billion in 2017 compared to 2016. The TCJA impacted our effective tax rate by 45 percentage points in 2017, decreasing our effective tax rate from 31 percent to (14) percent. The effective tax rates, excluding the TCJA in 2017, of 31 percent in 2017 and 33 percent in 2016, are slightly less than the U.S. statutory rate of 35 percent primarily due to certain permanent benefit differences, including differences related to net income attributable to noncontrolling interests and the domestic manufacturing deduction, partially offset by state and local tax expense. See Item 8. Financial Statements and Supplementary Data – Note 12 for further details.

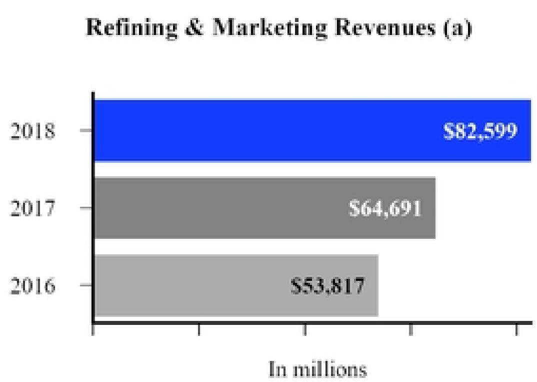
Noncontrolling interests increased $333 million primarily due to increased MPLX net income.

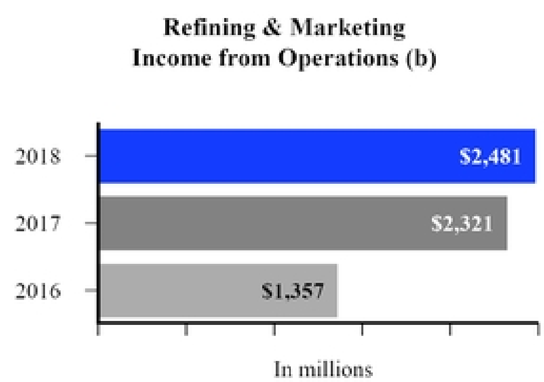
Segment Results

Our segment income from operations was approximately $6.26 billion, $4.39 billion and $3.14 billion for the years ended December 31, 2018, 2017 and 2016, respectively. The following shows the percentage of segment income from operations by segment for the last three years.



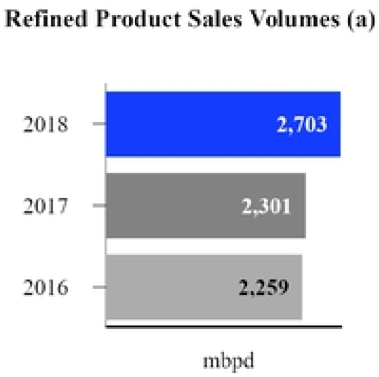
Refining & Marketing

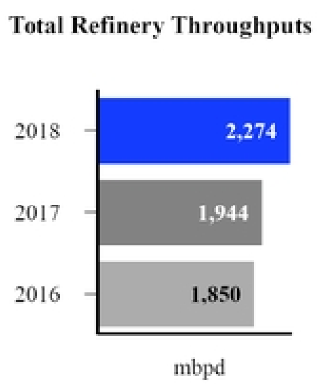


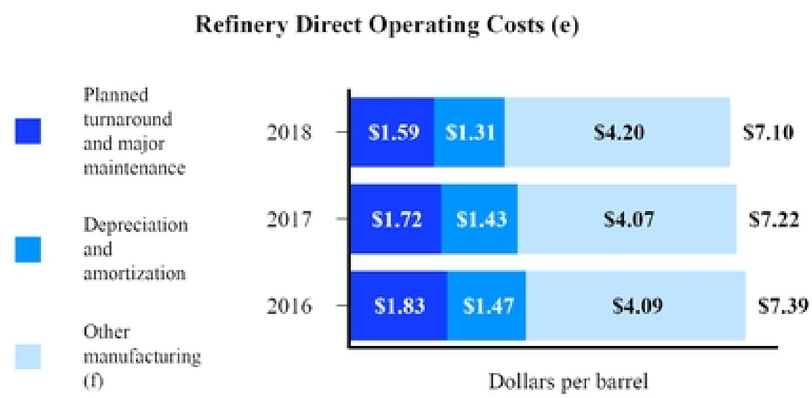


(a) We adopted ASC 606 (Revenue from Contracts with Customers), as of January 1, 2018, and elected to report certain taxes on a net basis. We applied the standard using the modified retrospective method, and, therefore, comparative information continues to reflect certain taxes on a gross basis.

(b) Results related to refining logistics and fuels distribution are presented in the Midstream segment prospectively from February 1, 2018. Prior periods are not adjusted as these entities were not considered a business prior to February 1, 2018.







(a) Includes intersegment sales and sales destined for export.

(b) For comparability purposes, these amounts exclude sales taxes for all periods presented. As noted above, Refining & Marketing revenues in 2018 reflect these taxes on a net basis, while 2017 and 2016 Refining & Marketing revenues continue to reflect these taxes on a gross basis. The average refined product sales prices for 2017 and 2016 included excise taxes of $0.18 per gallon before this adjustment.

(c) Sales revenue less cost of refinery inputs and purchased products, divided by total refinery throughputs. Excludes LCM inventory valuation adjustments.

(d) See “Non-GAAP Measures” section for reconciliation and further information regarding this non-GAAP measure.

(e) Per barrel of total refinery throughputs.

(f) Includes utilities, labor, routine maintenance and other operating costs.

2018 Compared to 2017

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's business. With the acquisition of Andeavor, we revised our market data to include a West Coast 3-2-1 crack spread. Additionally, the Chicago 6-3-2-1 crack spread was revised to reflect a Mid-Continent 3-2-1 crack spread and the Gulf coast 6-3-2-1 crack spread was also revised to reflect a 3-2-1 crack spread. See the "Overview of Segments" section for further discussion of our revised crack spreads.

Benchmark spot prices *(dollars per gallon)*	2018	2017
Chicago CBOB unleaded regular gasoline	$ 1.86	$ 1.58
Chicago ultra-low sulfur diesel	2.07	1.64
USGC CBOB unleaded regular gasoline	1.88	1.60
USGC ultra-low sulfur diesel	2.05	1.62
LA CARBOB	2.06	—
LA CARB diesel	2.14	—
Market Indicators *(dollars per barrel)*		
LLS	$ 69.93	$ 54.00
WTI	64.10	50.85
ANS	68.46	54.44
Crack Spreads		
Mid-Continent WTI 3-2-1	$ 14.02	$ 12.71
USGC LLS 3-2-1	7.91	8.55
West Coast ANS 3-2-1	11.66	14.02
Blended 3-2-1[(a)(b)]	10.62	10.22
Crude Oil Differentials		
Sweet	$ (3.83)	$ (1.04)
Sour	(7.60)	(5.02)

(a) Blended 3-2-1 WTI/LLS/ANS crack spread 38/38/24 percent in 2018, Blended 6-3-2-1 Chicago/USGC crack spread is 40/60 percent for the first nine months of 2018 and in 2017 and 38/62 percent in 2016. These blends are based on MPC's refining capacity by region in each period.

(b) Beginning 4Q 2018, Blended Mid-Con/USGC/West Coast crack spread is weighted 38/38/24 percent based on MPC's refining capacity by PADD. From Q1 2017 through Q3 2018, the blended spread was weighted 40/60 percent Mid-Con/USGC.

Refining & Marketing segment revenues increased $17.91 billion primarily due to higher refined product sales volumes, which increased 402 mbpd, and higher refined product sales prices, which increased $0.34 per gallon. The increase in sales volumes is largely due to the acquisition of Andeavor on October 1, 2018. These increases were partially offset by our election to present revenues net of certain taxes under ASC 606 prospectively from January 1, 2018, which resulted in a decrease in Refining & Marketing segment revenues of $4.58 billion in 2018. See Item 8. Financial Statements and Supplementary Data – Notes 2 and 3 for additional information on recently adopted accounting standards.

Refining & Marketing segment income from operations increased $160 million primarily due to higher throughputs as a result of the Andeavor acquisition as well as wider sour and sweet crude differentials. For comparison purposes, as noted in the Market Indicators table, 2017 indicators have been included which reflect the new indicators we began using subsequent to the acquisition of Andeavor. Based on this, the USGC, Mid-Continent and West Coast blended 3-2-1 crack spread was $10.62 per barrel in 2018 as compared to 10.22 per barrel in 2017. These crack spreads are net of RIN crack adjustments of $1.61 and $3.57 for 2018 and 2017, respectively.

Based on changes in the market indicators shown above and our refinery throughputs, we estimate a positive impact of $3.40 billion on Refining & Marketing segment income from operations, of which $1.81 billion and $1.59 billion are due to the effects of changes in price and volume, respectively. The market indicators use spot market values and an estimated mix of crude purchases and product sales. Differences in our results compared to these market indicators, including product price realizations, the mix of crudes purchased and their costs, the effects of LCM inventory valuation adjustments, the effects of market structure on our crude oil acquisition prices, and other items like refinery yields and other feedstock variances, had an estimated negative impact on Refining & Marketing segment income from operations of $698 million in 2018 compared to 2017. The significant elements of the negative impact were unfavorable crude acquisition costs and unfavorable product price realizations relative to the market indicators.

The cost of inventories of crude oil and refinery feedstocks, refined products and merchandise is determined primarily under the LIFO method. There were no material liquidations of LIFO inventories in 2018 and we recognized a LIFO charge of $7 million in 2017.

Refinery direct operating costs decreased $0.12 per barrel in 2018 compared to 2017. The decrease includes a $0.13 per barrel decrease in planned turnaround and major maintenance costs and a $0.12 per barrel decrease in depreciation and amortization primarily due to higher refinery throughput resulting from the addition of 10 refineries as part of the acquisition of Andeavor. Total turnaround costs increased due to costs related to these additional refineries as well as higher turnaround costs at our Detroit and Canton refineries, partially offset by lower turnaround costs at our Galveston Bay and Garyville refineries. The increase in other manufacturing costs of $0.13 per barrel is mainly due to costs associated with the acquired refineries, partially offset by an increase in throughput due to the acquisition of Andeavor. In addition, manufacturing costs and depreciation and amortization costs per barrel decreased due to the dropdown of refining and logistics assets to MPLX on February 1, 2018.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were $316 million in 2018 compared to $457 million in 2017. The decrease in 2018 was primarily due to lower weighted average RIN costs which more than offset the increase in our RINs obligation subsequent to the acquisition of Andeavor.

2017 Compared to 2016

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's business.

Benchmark spot prices *(dollars per gallon)*	2017	2016
Chicago CBOB unleaded regular gasoline	$ 1.58	$ 1.33
Chicago ultra-low sulfur diesel	1.64	1.34
USGC CBOB unleaded regular gasoline	1.60	1.33
USGC ultra-low sulfur diesel	1.62	1.32
Market Indicators *(dollars per barrel)*		
LLS	$ 54.00	$ 45.01
WTI	50.85	43.47
Crack Spreads		
Chicago LLS 6-3-2-1[(a)(b)]	$ 9.77	$ 7.19
USGC LLS 6-3-2-1[(a)]	9.89	6.80
Blended 6-3-2-1[(a)(c)]	9.84	6.96
Crude Oil Differentials		
LLS - WTI[(a)]	$ 3.15	$ 1.55
Sweet/Sour[(a)(c)]	5.94	6.52

(a) All spreads and differentials are measured against prompt LLS.
(b) Calculation utilizes USGC three percent residual fuel oil price as a proxy for Chicago three percent residual fuel oil price.
(c) LLS (prompt) – [delivered cost of sour crude oil: Arab Light, Kuwait, Maya, Western Canadian Select and Mars].

Refining & Marketing segment revenues increased $10.87 billion in 2017 compared to 2016 primarily due to higher refined product sales prices and volumes.

Refining & Marketing segment income from operations increased $964 million in 2017 compared to 2016. Segment income in 2016 includes a $345 million non-cash benefit related to the Company's LCM inventory reserve. Excluding the LCM inventory benefit, the increase in segment results for 2017 primarily resulted from higher LLS crack spreads in both the U.S. Gulf Coast and Chicago markets. The LLS blended crack spread for 2017 increased to $9.84 per barrel from $6.96 per barrel in 2016. These favorable effects were partially offset by less favorable product price realizations as compared to the spot market prices used in the LLS blended crack spread.

Based on changes in the market indicators shown above and our refinery throughputs, we estimate a positive impact of $2.33 billion for 2017 compared to 2016 on Refining & Marketing segment income from operations. The market indicators use spot market values and an estimated mix of crude purchases and product sales. Differences in our results compared to these market indicators, including product price realizations, the mix of crudes purchased and their costs, the effects of LCM inventory valuation adjustments, the effects of market structure on our crude oil acquisition prices, and other items like refinery yields and other feedstock variances, had an estimated negative impact on Refining & Marketing segment income from operations of $1.35 billion in 2017 compared to 2016. The significant elements of the negative impact were unfavorable product price realizations and unfavorable crude acquisition costs relative to the market indicators.

The cost of inventories of crude oil and refinery feedstocks, refined products and merchandise is determined primarily under the LIFO method. In the second quarter of 2016, we had recognized the effects of an interim liquidation of our refined products inventories which we did not expect to reinstate by year end resulting in a pre-tax charge of approximately $54 million to income. Based on year end refined product inventories, which were higher than inventories at the beginning of the year, we had a build in refined product inventories for 2016. Therefore, we recognized the effects of this annual build in our refined products in the fourth quarter of 2016 which had the effect of reversing the second quarter charge. For the full year, we recognized a LIFO charge of $7 million in 2017 and $2 million in 2016.

Refinery direct operating costs decreased $0.17 per barrel in 2017 compared to 2016. The decrease in 2017 includes an $0.11 per barrel decrease in planned turnaround and major maintenance costs resulting from lower turnaround activity at our Garyville and Robinson refineries partially offset by higher activity at our Catlettsburg refinery.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were $457 million in 2017 and $288 million in 2016. The increase in 2017 was primarily due to higher weighted average RIN costs driven by higher market prices for purchased RINs and increases in the number of RINs purchased.

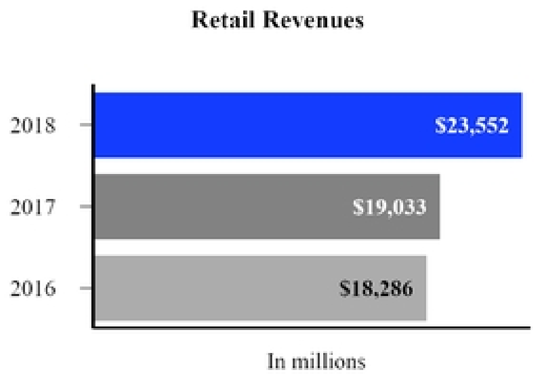
Supplemental Refining & Marketing Statistics

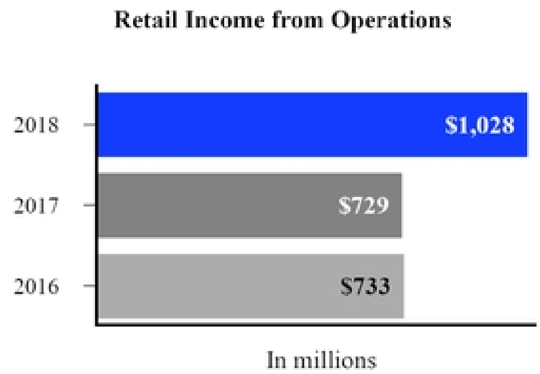
	2018	2017	2016
Refining & Marketing Operating Statistics			
Crude oil capacity utilization percent[(a)]	96	97	95
Refinery throughputs (*thousands of barrels per day*):			
Crude oil refined	2,081	1,765	1,699
Other charge and blendstocks	193	179	151
Total	2,274	1,944	1,850
Sour crude oil throughput percent	52	59	60
Sweet crude oil throughput percent	48	41	40
Refined product yields (mbpd):[(b)]			
Gasoline	1,107	932	900
Distillates	773	641	617
Propane	41	36	35
Feedstocks and petrochemicals	288	277	241
Heavy fuel oil	38	37	32
Asphalt	69	63	58
Total	2,316	1,986	1,883
Refining & Marketing Operating Statistics By Region – Gulf Coast			
Refinery throughputs (mbpd):[(b)]			
Crude oil refined	1,135	1,070	1,039
Other charge and blendstocks	190	224	195
Total	1,325	1,294	1,234
Sour crude oil throughput percent	62	71	73
Sweet crude oil throughput percent	38	29	27
Refined product yields (mbpd):[(b)]			
Gasoline	574	546	514
Distillates	432	405	399
Propane	25	26	26
Feedstocks and petrochemicals	291	311	286
Heavy fuel oil	18	25	21
Asphalt	19	17	15
Total	1,359	1,330	1,261
Refinery direct operating costs (dollars per barrel):[(c)]			
Planned turnaround and major maintenance	$ 1.12	$ 1.75	$ 2.09
Depreciation and amortization	1.03	1.12	1.14
Other manufacturing[(d)]	3.41	3.74	3.70
Total	$ 5.56	$ 6.61	$ 6.93

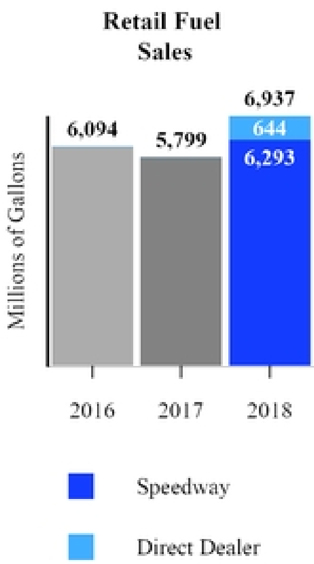
	2018	2017	2016
Refining & Marketing Operating Statistics By Region – Mid-Continent			
Refinery throughputs (mbpd):[b]			
Crude oil refined	792	695	660
Other charge and blendstocks	47	33	39
Total	839	728	699
Sour crude oil throughput percent	33	40	40
Sweet crude oil throughput percent	67	60	60
Refined product yields (mbpd):[b]			
Gasoline	444	386	386
Distillates	279	236	218
Propane	14	11	11
Feedstocks and petrochemicals	43	42	35
Heavy fuel oil	14	13	12
Asphalt	50	46	43
Total	844	734	705
Refinery direct operating costs (dollars per barrel):[c]			
Planned turnaround and major maintenance	$ 1.97	$ 1.48	$ 1.15
Depreciation and amortization	1.67	1.81	1.88
Other manufacturing[d]	4.34	4.26	4.29
Total	$ 7.98	$ 7.55	$ 7.32
Refining & Marketing Operating Statistics By Region – West Coast			
Refinery throughputs (mbpd):[b]			
Crude oil refined	154	—	—
Other charge and blendstocks	17	—	—
Total	171	—	—
Sour crude oil throughput percent	72	—	—
Sweet crude oil throughput percent	28	—	—
Refined product yields (mbpd):[b]			
Gasoline	89	—	—
Distillates	62	—	—
Propane	2	—	—
Feedstocks and petrochemicals	14	—	—
Heavy fuel oil	7	—	—
Asphalt	—	—	—
Total	174	—	—
Refinery direct operating costs (dollars per barrel):[c]			
Planned turnaround and major maintenance	$ 2.79	$ —	$ —
Depreciation and amortization	1.26	—	—
Other manufacturing[d]	8.07	—	—
Total	$ 12.12	$ —	$ —

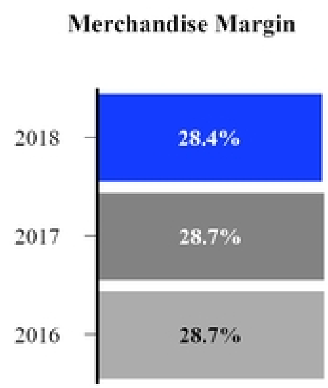
(a) Based on calendar-day capacity, which is an annual average that includes down time for planned maintenance and other normal operating activities.
(b) Excludes inter-refinery volumes which totaled 61 mbpd, 78 mbpd and 83 mbpd for 2018, 2017 and 2016, respectively, for all regions.
(c) Per barrel of total refinery throughputs.
(d) Includes utilities, labor, routine maintenance and other operating costs.

Retail









(a) The price paid by consumers or direct dealers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees (where applicable), divided by gasoline and distillate sales volume. Excludes LCM inventory valuation adjustments.
(b) See “Non-GAAP Measures” section for reconciliation and further information regarding this non-GAAP measure.

Key Financial and Operating Data	2018	2017	2016
Average fuel sales prices (*dollars per gallon*)	$ 2.71	$ 2.34	$ 2.09
Merchandise sales (*in millions*)	$ 5,232	$ 4,893	$ 5,007
Merchandise margin (*in millions*)[a][b]	$ 1,486	$ 1,402	$ 1,435
Same store gasoline sales volume (period over period)[c]	(1.5)%	(1.3)%	(0.4)%
Same store merchandise sales (period over period)[c][d]	4.2 %	1.2 %	3.2 %
Convenience stores at period-end	3,923	2,744	2,733
Direct dealer locations at period-end	1,065	N/A	N/A

(a) The price paid by the consumers less the cost of merchandise.
(b) See “Non-GAAP Measures” section for reconciliation and further information regarding this non-GAAP measure.
(c) Same store comparison includes only locations owned at least 13 months.
(d) Excludes cigarettes.

2018 Compared to 2017

Retail segment revenues increased $4.52 billion. The majority of this increase is due to the acquisition of Andeavor on October 1, 2018, which added company-owned and operated retail locations, which are included in Speedway fuel sales, and direct dealer locations. The existing Retail business also saw a $1.18 billion increase in fuel and merchandise sales. Total fuel sales increased $5.21 billion primarily due to an increase in Speedway fuel sales volumes of 494 million gallons, the addition of direct dealer fuel sales of 644 million gallons and an increase in average gasoline and distillate selling prices of $0.37 per gallon. Merchandise sales increased $339 million. The increases in Speedway fuel sales and merchandise sales as well as the addition of sales to direct dealers were primarily due to the acquisition of Andeavor. These increases were partially offset by our election to present revenues net of certain taxes under ASC 606 prospectively from January 1, 2018, which resulted in a decrease in Retail segment revenues of $844 million in 2018. See Item 8. Financial Statements and Supplementary Data – Notes 2 and 3 for additional information on recently adopted accounting standards.

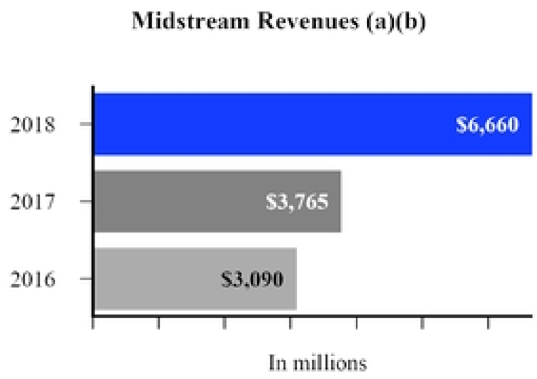
Retail segment income from operations increased $299 million primarily due to contributions from the Retail operations acquired in the Andeavor acquisition. For locations owned prior to the Andeavor acquisition, increased gasoline and distillate and merchandise margins were more than offset by increased operating expenses.

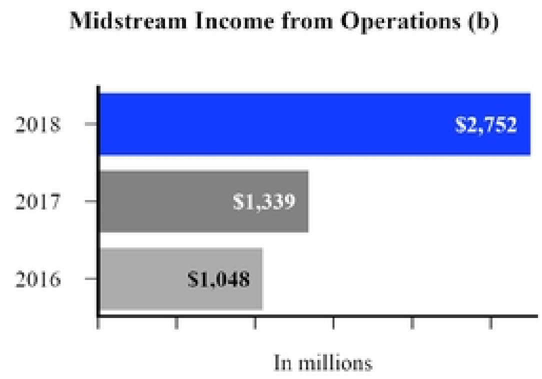
2017 Compared to 2016

Retail segment revenues increased $747 million due to an increase in fuel sales of $860 million partially offset by a decrease in merchandise sales of $114 million. Average fuel selling prices increased $0.25 per gallon which were partially offset by a decrease in sales volumes in 2017 compared to 2016. The decreases in fuel sales volumes and merchandise sales are primarily attributable to the contribution of 41 travel centers to PJF Southeast in fourth quarter of 2016.

Retail segment income from operations decreased $4 million. Segment income in 2016 includes a $25 million non-cash benefit related to the reversal of the Company’s LCM inventory reserve, which was recorded in 2015. Excluding the LCM inventory benefit recognized in 2016, the increase in segment results for 2017 was primarily due to a full year of contributions from Speedway’s travel center joint venture formed in the fourth quarter 2016 and lower operating expense, partially offset by lower merchandise margin and lower gains from asset sales.

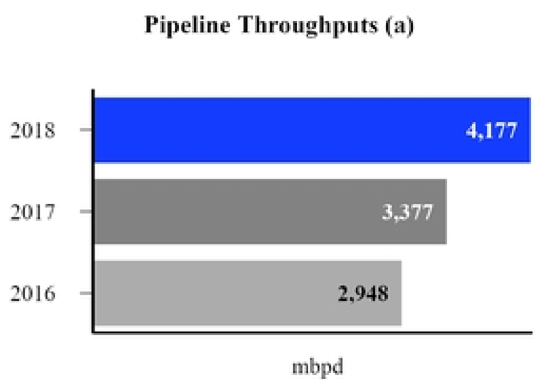
Midstream

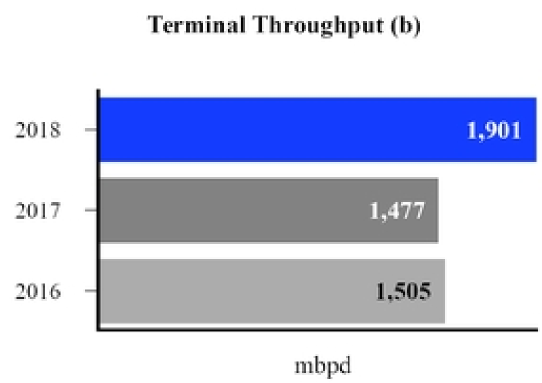


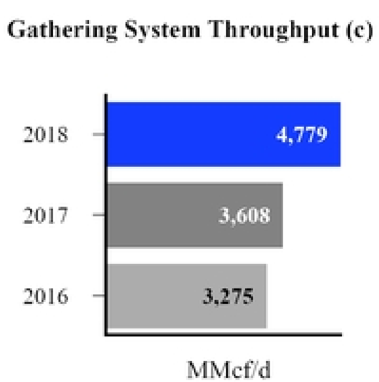


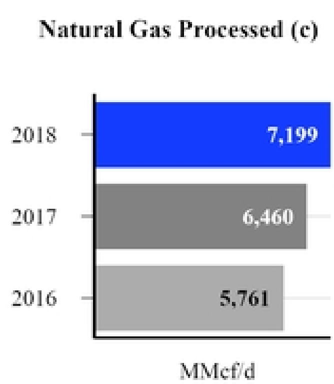
(a) We adopted ASC 606 (Revenue from Contracts with Customers), as of January 1, 2018, and elected to report certain taxes on a net basis. We applied the standard using the modified retrospective method, and, therefore, comparative information continues to reflect certain taxes on a gross basis.

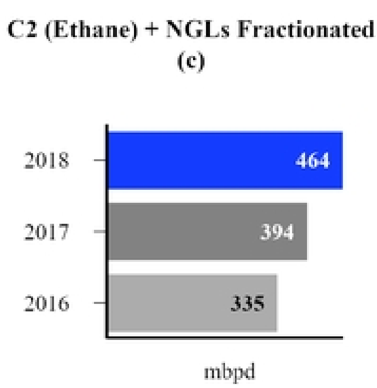
(b) Results related to refining logistics and fuels distribution dropdown into MPLX are presented in the Midstream segment prospectively from February 1, 2018. Prior periods are not adjusted as these entities were not considered a business prior to February 1, 2018.











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

(b) Includes the results of the terminal assets beginning on April 1, 2016, the date the assets became a business.

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

Benchmark Prices

	2018	2017	2016
Natural Gas NYMEX HH (*$ per MMBtu*)	$ 3.07	$ 3.02	$ 2.55
C2 + NGL Pricing (*$ per gallon*)[(a)]	$ 0.78	$ 0.66	$ 0.47

(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.

2018 Compared to 2017

On February 1, 2018, we completed the dropdown of our refining logistics assets and fuels distribution services to MPLX, which is reported in our Midstream segment. Refining logistics contains the integrated tank farm assets that support MPC's refining operations. Fuels distribution is structured to provide a broad range of scheduling and marketing services as MPC's agent. These new businesses were reported in the Midstream segment prospectively from February 1, 2018. No effect was given to prior periods as these entities were not considered businesses prior to February 1, 2018.

Midstream segment revenue and income from operations increased $2.90 billion and $1.41 billion, respectively. Revenue increased $1.94 billion primarily due to fees charged for fuels distribution and refining logistics services following the February 1, 2018 dropdown to MPLX in addition to services provided by ANDX following the acquisition of Andeavor on October 1, 2018. Revenues also increased by approximately $502 million due to ASC 606 gross ups. See Item 8. Financial Statements and Supplementary Data – Note 3 for additional information.

In 2018, Midstream segment income from operations includes $230 million due to contributions from ANDX and $874 million, from the refining logistics assets and fuels distribution services contributed to MPLX on February 1, 2018. Prior period Midstream segment results do not reflect the impact of these new businesses. The incremental $309 million increase in Midstream segment results in 2018, was driven by record gathered, processed and fractionated volumes and record pipeline throughput volumes for MPLX.

2017 Compared to 2016

Midstream segment revenue and income from operations increased $675 million and $291 million, respectively, primarily due to increased revenue from higher natural gas and NGL gathering, processing and fractionation volumes and changes in natural gas and NGL prices. Segment results also benefited from the first quarter 2017 acquisitions of the Ozark pipeline and our ownership interest in the Bakken Pipeline system. The comparison for 2017 and 2016 also reflects the absence of any revenues for the terminal services provided to the Refining & Marketing segment in the first quarter of 2016 versus the inclusion of revenues for these services in the first quarter of 2017. These assets were not considered a business prior to April 1, 2016, and therefore, no financial results for these assets were available from which to recast first quarter 2016 Midstream segment results.

Items not Allocated to Segments

Key Financial Information *(in millions)*	2018	2017	2016
Items not allocated to segments:			
Corporate and other unallocated items[(a)]	$ (502)	$ (365)	$ (266)
Transaction-related costs	(197)	—	—
Litigation	—	(29)	—
Impairment[(b)]	9	23	(486)

(a) Corporate and other unallocated items consists primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX and ANDX, which are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Retail segments.

(b) 2018 and 2017 includes MPC's share of gains from the the sale of assets remaining from the canceled Sandpiper pipeline project. 2016 includes impairments of goodwill and equity method investments. See Item 8. Financial Statements and Supplementary Data – Notes16 and 17.

2018 Compared to 2017

Corporate and other unallocated expenses increased $137 million in 2018 compared to 2017 largely due to increased costs and expenses for the combined company after the Andeavor acquisition on October 1, 2018.

Other unallocated items in 2018 include $197 million of transaction-related costs for financial advisors, employee severance and other costs associated with the Andeavor acquisition and MPC's share of gains from the sale of assets remaining from the canceled Sandpiper pipeline project. Other unallocated items in 2017 include an $86 million litigation charge, a litigation benefit of $57 million and a benefit of $23 million related to MPC's share of gains from the sale of assets remaining from the canceled Sandpiper pipeline project.

2017 Compared to 2016

Corporate and other unallocated expenses increased $99 million in 2017 compared to 2016 largely due to higher unallocated corporate costs and increases in employee-related expenses and corporate costs.

Other unallocated items in 2017 include an $86 million litigation charge, a litigation benefit of $57 million and a benefit of $23 million related to MPC’s share of gains from the sale of assets remaining from the canceled Sandpiper pipeline project. Other unallocated items in 2016 include impairment charges of $486 million resulting from non-cash charges of $267 million related to the indefinite deferral of the Sandpiper pipeline project, $130 million related to the goodwill recognized in connection with the MarkWest Merger and $89 million related to an MPLX equity method investment.

Non-GAAP Financial Measures

Management uses certain financial measures to evaluate our operating performance that are calculated and presented on the basis of methodologies other than in accordance with GAAP (“non-GAAP”). We believe these non-GAAP financial measures are useful to investors and analysts to assess our ongoing financial performance because, when reconciled to its most comparable GAAP financial measure, they provide 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. These measures should not be considered a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP, and our calculations thereof may not be comparable to similarly titled measures reported by other companies. The non-GAAP financial measures we use are as follows:

Refining & Marketing Margin

Refining margin is defined as sales revenue less the cost of refinery inputs and purchased products and excludes the LCM inventory market adjustment.

Reconciliation of Refining & Marketing income from operations to Refining & Marketing margin *(in millions)*	2018	2017	2016
Refining & Marketing income from operations	$ 2,481	$ 2,321	$ 1,357
Plus (Less):			
Refinery direct operating costs[(a)]	4,801	4,113	4,007
Refinery depreciation and amortization	1,089	1,013	994
Other:			
Operating expenses[(a)(b)]	3,189	1,425	1,475
Depreciation and amortization	85	69	69
Inventory market valuation adjustment	—	—	(345)
Refining & Marketing margin[(c)]	$ 11,645	$ 8,941	$ 7,557

(a) Excludes depreciation and amortization.
(b) Includes fees paid to MPLX and ANDX for various midstream services. MPLX and ANDX are reported in MPC’s Midstream segment.
(c) Sales revenue less cost of refinery inputs and purchased products, excluding any LCM inventory market adjustment.

Retail Fuel Margin

Retail fuel margin is defined as the price paid by consumers or direct dealers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees (where applicable) and excluding any LCM inventory market adjustment.

Retail Merchandise Margin

Retail merchandise margin is defined as the price paid by consumers less the cost of merchandise.

Reconciliation of Retail income from operations to Retail total margin *(in millions)*	2018	2017	2016
Retail income from operations	$ 1,028	$ 729	$ 733
Plus (Less):			
Operating, selling, general and administrative expenses[(a)]	1,796	1,533	1,555
Depreciation and amortization[(a)]	353	275	273
Income from equity method investments	(74)	(69)	(5)
Net gain on disposal of assets	(17)	(14)	(30)
Other income[(a)]	(7)	(14)	(18)
Inventory market valuation adjustment	—	—	(25)
Retail total margin	$ 3,079	$ 2,440	$ 2,483

Retail total margin:[(a)]			
Fuel margin[(b)]	$ 1,547	$ 1,008	$ 1,009
Merchandise margin[(c)]	1,486	1,402	1,435
Other margin	46	30	39
Retail total margin	$ 3,079	$ 2,440	$ 2,483

(a) 2018 and 2017 margins and expenses do not reflect any results from the 41 travel centers contributed to PFJ Southeast, whereas they are reflected in the 2016 information. Our share of the net results from the joint venture is reflected in income from equity method investments.
(b) The price paid by consumers or direct dealers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees (where applicable) and excluding any LCM inventory market adjustment.
(c) The price paid by the consumers less the cost of merchandise.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows

Our cash and cash equivalents balance was $1.69 billion at December 31, 2018 compared to $3.01 billion at December 31, 2017. 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)	2018	2017	2016
Net cash provided by (used in):			
Operating activities	$ 6,158	$ 6,612	$ 4,017
Investing activities	(7,670)	(3,398)	(2,967)
Financing activities	222	(1,091)	(1,294)
Total	$ (1,290)	$ 2,123	$ (244)

Net cash provided by operating activities decreased $454 million in 2018 compared to 2017, primarily due to an unfavorable change in working capital of $2.28 billion partially offset by an increase in operating results. Net cash provided by operating activities increased $2.60 billion in 2017 compared to 2016, primarily due to increased operating results and favorable changes in working capital of $1.74 billion compared to 2017. The above changes in working capital exclude changes in short-term debt.

For 2018, changes in working capital were a net $340 million use of cash, primarily due to the effect of decreases in energy commodity prices on working capital. Accounts payable decreased primarily due to lower crude oil payable prices. Inventories decreased primarily due to a decrease in crude and refined product inventories. Current receivables decreased primarily due to lower crude oil receivable prices. All of these effects exclude the working capital acquired in connection with the acquisition of Andeavor.

For 2017, changes in working capital were a net $1.94 billion source of cash, primarily due to the effect of increases in energy commodity prices on working capital. Accounts payable increased primarily due to higher crude oil payable volumes and prices; current receivables increased primarily due to higher crude oil and refined product receivable prices and volumes; and inventories decreased primarily due to lower crude oil inventory volumes.

For 2016, changes in working capital were a net $200 million source of cash, primarily due to the effect of increases in energy commodity prices on working capital. Accounts payable increased primarily due to higher crude oil payable prices; current receivables increased primarily due to higher refined product and crude oil receivable prices; and inventories increased, excluding the change in the Company's inventory valuation reserve of $370 million, primarily due to higher crude oil and refined product inventory volumes.

Cash flows used in investing activities increased $4.27 billion in 2018 compared to 2017 and increased $431 million in 2017 compared to 2016.

- Cash used for additions to property, plant and equipment was primarily due to spending in our Midstream segment. See discussion of capital expenditures and investments under the "Capital Spending" section.
- Cash used for acquisitions of $3.82 billion in 2018 primarily includes cash paid to Andeavor stockholders of $3.5 billion in connection with the acquisition of Andeavor on October 1, 2018.
- Net investments were a use of cash of $393 million in 2018 compared to $743 million in 2017 and $288 million in 2016. Investments in 2017 primarily include MPLX's $500 million investment in a partial interest in the Bakken Pipeline system.
- Cash provided by disposal of assets totaled $54 million, $79 million and $101 million in 2018, 2017 and 2016, respectively. Cash provided in 2016 was primarily due to the sale of certain Speedway locations in the normal course of business.

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)	2018	2017	2016
Additions to property, plant and equipment per consolidated statements of cash flows	$ 3,578	$ 2,732	$ 2,892
Asset retirement expenditures	8	2	6
Increase (decrease) in capital accruals	309	67	(127)
Total capital expenditures	3,895	2,801	2,771
Investments in equity method investees[(a)]	409	305	288
Total capital expenditures and investments	$ 4,304	$ 3,106	$ 3,059

(a) The 2016 amount excludes an adjustment of $143 million to the fair value of equity method investments acquired in connection with the MarkWest Merger.

Financing activities were a source of cash of $222 million in 2018 and uses of cash of $1.09 billion in 2017 and $1.29 billion in 2016.

- Long-term debt borrowings and repayments, including debt issuance costs, were a net $5.36 billion source of cash in 2018 compared to a $2.24 billion source of cash in 2017 and a $1.42 billion use of cash in 2016. During 2018, MPLX issued $7.75 billion of senior notes, redeemed $750 million of senior notes, borrowed and repaid $4.1 billion under the MPLX term loan, and borrowed and repaid $1.41 billion and $1.92 billion, respectively, under the MPLX Credit Agreement. In addition, MPC redeemed $600 million of senior notes. During 2017, MPLX issued $2.25 billion of senior notes, borrowed $505 million under the MPLX bank revolving credit agreement, repaid the remaining $250 million under the MPLX term loan agreement and we repaid the remaining $200 million balance under the MPC term loan agreement. During 2016, MPLX used proceeds from its issuance of the MPLX Preferred Units to repay amounts outstanding under the MPLX bank revolving credit facility and MPC chose to prepay $500 million under its term loan. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information on our long-term debt.
- Cash used in common stock repurchases totaled $3.29 billion in 2018, $2.37 billion in 2017, and $197 million in 2016 associated with the share repurchase plans authorized by our board of directors. See the "Capital Requirements" section for further discussion of our stock repurchases.
- Cash used in dividend payments totaled $954 million in 2018, $773 million in 2017 and $719 million in 2016. The increase in 2018 was primarily due to an increase in our base dividend in addition to a net increase in the number of shares of our common stock outstanding due to issuances related to the Andeavor acquisition, partially offset by share repurchases. The increase in 2017 was due to an increase in our base dividend, partially offset by a decrease in the number of outstanding shares of our common stock as a result of share repurchases. Dividends per share were $1.84 in 2018, $1.52 in 2017 and $1.36 in 2016.
- Distributions to noncontrolling interests increased $209 million in 2018 compared to 2017 and $152 million in 2017 compared to 2016, primarily due to an increase in MPLX's distribution per common unit. In 2018, distributions to

noncontrolling interests also included ANDX's distribution per common unit paid in the fourth quarter subsequent to the acquisition of Andeavor on October 1, 2018.

- Cash proceeds from the issuance of MPLX common units were $473 million in 2017 and $776 million in 2016. Cash proceeds from the issuance of MPLX Preferred Units was $984 million in 2016. See Item 8. Financial Statements and Supplementary Data – Note 4 for further discussion of MPLX.
- Cash used in financing activities in 2017 and 2016 included a portion of the payments to the seller of the Galveston Bay refinery under the contingent earnout provisions of the purchase and sale agreement.

Derivative Instruments

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

Capital Resources

Our liquidity totaled $8.3 billion at December 31, 2018 consisting of:

	December 31, 2018		
(In millions)	Total Capacity	Outstanding Borrowings	Available Capacity
Bank revolving credit facility[(a)]	$ 5,000	$ 32	$ 4,968
364 day bank revolving credit facility	1,000	—	1,000
Trade receivables facility	750	—	750
Total	$ 6,750	$ 32	$ 6,718
Cash and cash equivalents[(b)]			1,609
Total liquidity			$ 8,327

(a) Outstanding borrowings include $32 million in letters of credit outstanding under this facility. Excludes MPLX's $2.25 billion bank revolving credit facility, which had no borrowings and $3 million of letters of credit outstanding as of December 31, 2018 and ANDX's $2.10 billion bank revolving credit facilities, which had $1.25 billion outstanding as of December 31, 2018.

(b) Excludes $68 million and $10 million of MPLX and ANDX cash and cash equivalents, respectively.

Because of the alternatives available to us, including internally generated cash flow and access to capital markets, including 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 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.

On November 15, 2018, MPLX issued $2.25 billion in aggregate principal amount of senior notes in a public offering, consisting of $750 million aggregate principal amount of 4.800 percent unsecured senior notes due February 2029 and $1.5 billion aggregate principal amount of 5.500 percent unsecured senior notes due February 2049. On December 10, 2018, a portion of the net proceeds from the offering was used to redeem the $750 million in aggregate principal amount of 5.500 percent unsecured notes due February 2023 issued by MPLX and MarkWest. These notes were redeemed at 101.833 percent of the principal amount, plus the write off of unamortized deferred financing costs, resulting in a loss on extinguishment of debt of $60 million. The remaining net proceeds have or will be used to repay borrowings under MPLX's revolving credit facility and intercompany loan agreement with MPC and for general partnership purposes.

On February 8, 2018, MPLX issued $5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of $500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, $1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, $1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, $1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and $500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058. On February 8, 2018, $4.1 billion of the net proceeds were used to repay the 364-day term-loan facility, which was used to finance the cash portion of the consideration for the dropdown of refining logistics assets and distribution services to MPLX. The remaining proceeds were used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with MPC and for general partnership purposes.

Commercial Paper – We established a commercial paper program that allows us to have a maximum of $2 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, 2018, we had no amounts outstanding under the commercial paper program.

MPC Bank Revolving Credit Facilities – On August 28, 2018, in connection with the Andeavor acquisition, we entered into credit agreements with a syndicate of lenders to replace MPC's previous five-year $2.5 billion bank revolving credit facility due in 2022 and our previous 364-day $1 billion bank revolving agreement that expired in July 2018. The new credit agreements, which became effective October 1, 2018, provide for a $5 billion five-year revolving credit facility that expires in 2023 and a $1 billion 364-day revolving credit facility that expires in 2019. The financial covenants and the interest rate terms contained in the new credit agreements are substantially the same as those contained in the previous bank revolving credit facilities. There were no borrowings and approximately $32 million of letters of credit outstanding under these facilities at December 31, 2018.

Trade receivables facility – Our trade receivables facility has a borrowing capacity of $750 million (depending on the amount of our eligible domestic trade accounts receivable) and a maturity date of July 19, 2019. As of December 31, 2018, eligible trade receivables supported borrowings of $750 million. There were no borrowings outstanding at December 31, 2018. Availability under our trade receivables facility is primarily a function of refined product selling prices.

MPLX Credit Agreement – On July 21, 2017, MPLX entered into a credit agreement with a syndicate of lenders to replace the existing $2 billion five-year bank revolving credit facility with a $2.25 billion five-year bank revolving credit facility with a maturity date of July 2022 ("MPLX credit agreement"). At December 31, 2018, MPLX had no outstanding borrowings and $3 million of letters of credit outstanding under the bank revolving credit facility, resulting in total unused loan availability of approximately $2.25 billion.

ANDX credit agreements - Through the Andeavor acquisition on October 1, 2018, we acquired the general partner and 156 million units of ANDX. ANDX is party to a $1.1 billion revolving credit agreement and a $1.0 billion dropdown credit agreement both of which expire in January 2021 (together, the "ANDX credit agreements"). As of December 31, 2018, ANDX had approximately $1.25 billion outstanding borrowings under the ANDX credit agreements, resulting in total unused loan availability of $855 million.

See Item 8. Financial Statements and Supplementary Data – Note 19 for further discussion of our debt.

The MPC credit agreements 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 agreements 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 agreements) 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, 2018, we were in compliance with the covenants contained in the MPC credit agreements, including a ratio of Consolidated Net Debt to Total Capitalization of 0.19 to 1.00, as well as the other covenants contained in the MPC credit agreements.

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 MPLX credit agreement includes 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. 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, 2018, MPLX was in compliance with the covenants contained in the MPLX credit agreement, including a ratio of Consolidated Total Debt to Consolidated EBITDA of 3.80 to 1.0.

The ANDX credit agreements contain 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 ANDX to maintain a Consolidated Leverage Ratio (as defined in the ANDX credit agreements) for the prior four fiscal quarters of no greater than 5.0 to 1.0 for the prior four fiscal quarters (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA used to calculate the Consolidated Leverage Ratio is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. The covenants also restrict, among other things, ANDX'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, 2018, ANDX was in compliance with the covenants contained in the ANDX credit agreements, including a Consolidated Leverage Ratio of 3.72 to 1.0.

As disclosed in Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements, we expect the adoption of the lease accounting standard update to result in the recognition of a significant lease obligation. The MPC bank revolving credit facility, the MPLX credit agreement and the ANDX credit agreements contain provisions under which the effects of the new accounting standard are not recognized for purposes of financial covenant calculations.

Our intention is to maintain an investment-grade credit profile. As of February 1, 2019, the credit ratings on our, MPLX's and ANDX's 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)
MPLX	Moody's	Baa3 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB- (positive outlook)
ANDX	Moody's	Ba1 (review for upgrade)
	Standard & Poor's	BBB- (positive watch)
	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.

None of the MPC credit agreements, the MPLX credit agreement, the ANDX credit agreements or our trade receivables facility contains 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. In addition, a downgrade of our senior unsecured debt rating to below investment-grade levels could, under certain circumstances, decrease the amount of trade receivables that are eligible to be sold under our trade receivables facility, 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.

Capital Requirements

For information about our capital expenditures and investments, see the "Capital Spending" section.

In 2018, we made pension contributions totaling $115 million. We have no required funding for 2019, but may make voluntary contributions at our discretion.

On January 28, 2019, we announced our board of directors approved a $0.53 per share dividend, payable March 11, 2019 to shareholders of record at the close of business on February 20, 2019.

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

Share Repurchases

Since January 1, 2012, our board of directors has approved $18.0 billion in total share repurchase authorizations and we have repurchased a total of $13.10 billion of our common stock, leaving $4.9 billion available for repurchases as of December 31, 2018. Under these authorizations, we have acquired 293 million shares at an average cost per share of $44.60. As part of our strategic actions to enhance shareholder value, for the year ended December 31, 2018, cash proceeds received from dropdowns to MPLX during the year were used in part to repurchase $3.29 billion of our common stock. The table below summarizes our total share repurchases. See Item 8. Financial Statements and Supplementary Data – Note 9 for further discussion of the share repurchase plans.

(In millions, except per share data)	2018	2017	2016
Number of shares repurchased	47	44	4
Cash paid for shares repurchased	$ 3,287	$ 2,372	$ 197
Average cost per share	$ 69.46	$ 53.85	$ 41.84

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, 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 discontinued at any time.

Contractual Cash Obligations

The table below provides aggregated information on our consolidated obligations to make future payments under existing contracts as of December 31, 2018. The contractual obligations detailed below do not include our contractual obligations to MPLX and ANDX under various fee-based commercial agreements as these transactions are eliminated in the consolidated financial statements.

(In millions)	Total	2019	2020-2021	2022-2023	Later Years
Long-term debt[a]	$ 44,673	$ 1,790	$ 4,128	$ 5,865	$ 32,890
Capital lease obligations[b]	897	65	127	148	557
Operating lease obligations	3,423	709	1,172	684	858
Purchase obligations:[c]					
Crude oil, feedstock, refined product and renewable fuel contracts[d]	10,306	8,881	1,115	196	114
Transportation and related contracts	2,556	550	760	661	585
Contracts to acquire property, plant and equipment	1,825	1,794	31	—	—
Service, materials and other contracts[e]	3,361	948	1,009	574	830
Total purchase obligations	18,048	12,173	2,915	1,431	1,529
Other long-term liabilities reported in the consolidated balance sheet[f]	2,734	297	587	531	1,319
Total contractual cash obligations	$ 69,775	$ 15,034	$ 8,929	$ 8,659	$ 37,153

(a) Includes interest payments of $18.42 billion for our senior notes, the MPLX senior notes and the ANDX senior notes in addition to interest on the MPLX credit agreement and ANDX credit agreements, commitment and administrative fees for our credit agreement, the MPLX credit agreement, the ANDX credit agreements and our trade receivables facility.
(b) Capital lease obligations represent future minimum payments.
(c) Includes both short- and long-term purchases obligations.
(d) 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.
(e) Primarily includes contracts to purchase services such as utilities, supplies and various other maintenance and operating services.
(f) Primarily includes obligations for pension and other postretirement benefits including medical and life insurance, which we have estimated through 2028. See Item 8. Financial Statements and Supplementary Data – Note 22.

Capital Spending

The 2019 capital investment plan for MPC, MPLX and ANDX and capital expenditures and investments for each of the last three years are summarized by segment below. MPC's capital investment plan for 2019 totals approximately $2.8 billion for capital projects and investments, excluding MPLX, ANDX, capitalized interest and acquisitions. MPC's 2019 capital investment plan includes all of the planned capital spending for Refining & Marketing, Retail and Corporate as well as a portion of the planned capital investments in Midstream. The remainder of the planned capital spending for Midstream reflects the capital investment plans for MPLX and ANDX. We continuously evaluate our capital plan and make changes as conditions warrant.

(In millions)	2019 Plan	2018	2017	2016
Capital expenditures and investments:[a]				
Refining & Marketing	$ 1,750	$ 1,057	$ 832	$ 1,054
Retail	500	460	381	303
Midstream	3,600	2,630	1,755	1,558
Corporate and Other[b]	60	157	138	144
Total	$ 5,910	$ 4,304	$ 3,106	$ 3,059

(a) Capital expenditures include changes in capital accruals.
(b) Includes capitalized interest of $80 million, $55 million and $63 million for 2018, 2017 and 2016, respectively. The 2019 capital investment plan excludes capitalized interest.

Refining & Marketing

The Refining & Marketing segment's forecasted 2019 capital spending and investments is approximately $1.8 billion. This amount includes approximately $1.02 billion of growth capital focused on refinery optimization, production of higher value products, increased capacity to upgrade residual fuel oil and expanded export capacity. Investing to enhance margins, we will continue our disciplined high-return investments in resid upgrading capacity and the ability to produce more diesel. We also plan to continue investing in domestic light products supply placement flexibility, as well as increasing our export capacity. Sustaining capital is approximately $730 million, which includes approximately $260 million related to regulatory spending for Tier 3 gasoline.

Major capital projects completed over the last three years have prepared us to increase our diesel production, process light crude oil, increase our export capabilities and meet the upcoming transportation fuel regulatory mandate (Tier 3 fuel standards). In addition, the STAR investment project intended to transform our Galveston Bay refinery into a world-class refining complex is progressing according to plan and is scheduled to complete in 2022.

Retail

The Retail segment's 2019 capital forecast of approximately $500 million is focused on conversion of recently acquired locations to the Speedway brand and systems, growth in existing and new markets, dealer sites, commercial fueling/diesel expansion, food service through store remodels and high quality acquisitions.

Major capital projects over the last three years included building new store locations, remodeling and rebuilding existing locations in core markets and building out our network of commercial fueling lane locations to capitalize on diesel demand growth. We also invested in the conversion, remodel and maintenance of stores acquired in 2014.

Midstream

MPLX's capital investment plan includes $2.2 billion of organic growth capital and approximately $200 million of maintenance capital.This growth plan includes the addition of approximately 765 million cubic feet per day of processing capacity at five gas processing plants, two in the Marcellus basin and three in the Southwest, which expands MPLX's processing capacity in the Permian Basin and the STACK shale play of Oklahoma. The growth plan also includes the addition of approximately 100 mbpd of fractionation capacity in the Marcellus and Utica basins, continued expansion of MPLX's marine fleet and other projects including the Permian long-haul crude oil, natural gas and NGL pipelines as well as export facility projects which will further enhance our full value chain capture.

Major capital projects over the last three years included investments for the development of natural gas and gas liquids infrastructure to support MPLX's producer customers, primarily in the Marcellus and Utica shale regions, development of various crude oil and refined petroleum products infrastructure projects, including a build-out of Utica Shale infrastructure in connection with the Cornerstone Pipeline, a butane cavern in Robinson, Illinois, and a tank farm expansion in Texas City, Texas.

ANDX's capital investment plan includes $600 million of organic growth capital and approximately $100 million of maintenance capital. The growth plan includes the construction of additional crude storage capacity for unloading of marine vessels, the construction of a crude gathering system to provide connectivity to multiple long-haul pipelines and a pipeline interconnect project designed to provide direct connectivity between certain MPC refineries.

The remaining Midstream segment's forecasted 2019 capital spend, excluding MPLX and ANDX, is approximately $500 million which primarily relates to investments in equity affiliate pipelines, including our expected investments in the Gray Oak Pipeline, a new pipeline spanning from the West Texas Permian Basin to the Gulf Coast which is expected to be in service by the end of 2019.

Corporate and Other

The 2019 capital forecast includes approximately $60 million to support corporate activities. Major projects over the last three years included an expansion project for our corporate headquarters and upgrades to information technology systems.

Off-Balance Sheet Arrangements

Off-balance sheet arrangements comprise those arrangements that may potentially impact our liquidity, capital resources and results of operations, even though such arrangements are not recorded as liabilities under accounting principles generally accepted in the United States. Our off-balance sheet arrangements are limited to indemnities and guarantees that are described below. Although these arrangements serve a variety of our business purposes, we are not dependent on them to maintain our liquidity and capital resources, and we are not aware of any circumstances that are reasonably likely to cause the off-balance sheet arrangements to have a material adverse effect on liquidity and capital resources.

We have provided various guarantees related to equity method investees. In conjunction with the Spinoff, we entered into various indemnities and guarantees to Marathon Oil. These arrangements are described in Item 8. Financial Statements and Supplementary Data – Note 25.

TRANSACTIONS WITH RELATED PARTIES

We believe that transactions with related parties were conducted on terms comparable to those with unaffiliated parties. See Item 8. Financial Statements and Supplementary Data – Note 7 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 greenhouse gas 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. For additional information see Item 1A. Risk Factors.

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

(In millions)	2018	2017	2016
Capital	$ 380	$ 343	$ 302
Compliance:[a]			
Operating and maintenance	525	413	541
Remediation[b]	52	36	40
Total	$ 957	$ 792	$ 883

[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.

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. We believe we comply with all legal requirements regarding the environment, but since not all of them are fixed or presently determinable (even under existing legislation) and may be affected by future legislation or regulations, 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 ten percent, twelve percent and eleven percent of capital expenditures, for 2018, 2017 and 2016, respectively, excluding acquisitions. Our environmental capital expenditures are expected to approximate $420 million, or 7 percent, of total planned capital expenditures in 2019. 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. The amount of expenditures in 2019 is also dependent upon the resolution of the matters described in Item 3. Legal Proceedings, which may require us to complete additional projects and increase our actual environmental capital and operating expenditures.

For more information on environmental regulations that impact us, or could impact us, see Item 1. Business – Environmental Matters, Item 1A. Risk Factors and Item 3. Legal Proceedings.

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 17 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 margins on products produced and sold*. Our estimates of future product margins 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, retail, pipeline throughput and natural gas and NGL processing volumes are based on internal forecasts prepared by our Refining & Marketing, Retail and Midstream segments operations personnel.
- *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.

We base our fair value estimates on projected financial information which we believe to be reasonable. However, actual results may differ materially 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 poor outlook for profitability, a significant reduction in pipeline throughput volumes, a significant reduction in natural gas or NGLs processed, a significant reduction in refining or retail fuel margins, other changes to contracts or changes in the regulatory environment.

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, company-owned convenience store locations for Retail 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 if greater than the calculated fair value.

Unlike long-lived assets, goodwill is subject to annual, or more frequent if necessary, impairment testing. At December 31, 2018, we had a total of $20.18 billion of goodwill recorded on our consolidated balance sheet, including $16.31 billion that was preliminarily recognized as a result of the Andeavor acquisition and remains subject to finalization within one year of the October 1, 2018 acquisition date.

For the reporting units included in our annual impairment testing for 2018, the analysis resulted in the fair value of the reporting units exceeding their carrying value by percentages ranging from approximately 14 percent to 4,608 percent. The reporting unit with fair value exceeding its carrying value by approximately 14 percent has goodwill of $228 million at December 31, 2018. An increase of one percentage 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, 2018. Significant assumptions used to estimate the reporting units' fair value included estimates of future cash flows. If estimates for future cash flows, which are impacted by commodity prices and producers' production plans, were to decline, the overall reporting units' fair value 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 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, 2018, we had $5.90 billion of investments in equity method investments recorded on our consolidated balance sheet.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions (e.g., pricing, volumes and discount rates) that can materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions.

See Item 8. Financial Statements and Supplementary Data – Note 14 for additional information on our equity method investments. See Item 8. Financial Statements and Supplementary Data – Note 16 for additional information on our goodwill and intangibles.

Acquisitions

In accounting for business combinations, acquired assets, assumed liabilities and contingent consideration are recorded based on estimated fair values as of the date of acquisition. The excess or shortfall of the purchase price when compared to the fair value of the net tangible and identifiable intangible assets acquired, if any, is recorded as goodwill or a bargain purchase gain, respectively. A significant amount of judgment is involved in estimating the individual fair values of property, plant and equipment, intangible assets, contingent consideration and other assets and liabilities. We use all available information to make these fair value determinations and, for certain acquisitions, engage third-party consultants for valuation assistance.

The fair value of assets and liabilities, including contingent consideration, as of the acquisition date are often estimated using a combination of approaches, including the income approach, which requires us to project future cash flows and apply an appropriate discount rate; the cost approach, which requires estimates of replacement costs and depreciation and obsolescence estimates; and the market approach which uses market data and adjusts for entity-specific differences. The estimates used in determining fair values are based on assumptions believed to be reasonable but which are inherently uncertain. Accordingly, actual results may differ materially from the projected results used to determine fair value.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on our acquisitions. See Item 8. Financial Statements and Supplementary Data – Note 17 for additional information on fair value measurements.

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 17. 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 6.

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 our funded pension plans and our unfunded retiree health care plans due to the different projected benefit payment patterns. 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 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 by 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 $250 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 4.21 percent for our pension plans and 4.26 percent for our other postretirement benefit plans by 0.25 percent would increase pension obligations and other postretirement benefit plan obligations by $69 million and $31 million, respectively, and would increase defined benefit pension expense and other postretirement benefit plan expense by $8 million and $1 million, respectively.

The long-term asset rate of return assumption considers the asset mix of the plans (currently targeted at approximately 42 percent equity securities and 58 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 6.15 percent long-term rate of return to determine our 2018 defined benefit pension expense. After evaluating activity in the capital markets, along with the current and projected plan investments, we did not change the asset rate of return for our primary plan from 6.15 percent effective for 2019. Decreasing the 6.15 percent asset rate of return assumption by 0.25 percent would increase our defined benefit pension expense by $4 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 2018 mortality tables from the U.S. Society of Actuaries.

Item 8. Financial Statements and Supplementary Data – Note 22 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.

Contingent Liabilities

We accrue contingent liabilities for legal actions, claims, litigation, environmental remediation, tax deficiencies related to operating taxes and third-party indemnities for specified tax matters when such contingencies are both probable and estimable. We regularly assess these estimates in consultation with legal counsel to consider resolved and new matters, material developments in court proceedings or settlement discussions, new information obtained as a result of ongoing discovery and past experience in defending and settling similar matters. Actual costs can differ from estimates for many reasons. For instance, settlement costs for claims and litigation can vary from estimates based on differing interpretations of laws, opinions on degree of responsibility and assessments of the amount of damages. Similarly, liabilities for environmental remediation may vary from estimates because of changes in laws, regulations and their interpretation, additional information on the extent and nature of site contamination and improvements in technology.

We generally record losses related to these types of contingencies as cost of revenues or selling, general and administrative expenses in the consolidated statements of income, except for tax deficiencies unrelated to income taxes, which are recorded as other taxes. For additional information on contingent liabilities, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Environmental Matters and Compliance Costs.

An estimate of the sensitivity to net income if other assumptions had been used in recording these liabilities is not practical because of the number of contingencies that must be assessed, the number of underlying assumptions and the wide range of reasonably possible outcomes, in terms of both the probability of loss and the estimates of such loss.

ACCOUNTING STANDARDS NOT YET ADOPTED

As discussed in Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements, certain new financial accounting pronouncements will be effective for our financial statements in the future.

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, 2018, 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 17 and 18 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 and options, as part of an overall program to hedge commodity price risk. We also authorize the use of the market knowledge gained from these activities to do a limited amount of trading not directly related to our physical transactions.

We use commodity derivative instruments on crude oil and refined product inventories to hedge price risk associated with inventories above or below LIFO inventory targets. We also 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 and ANDX’s control. A portion of MPLX’s and ANDX’s profitability is directly affected by prevailing commodity prices primarily as a result of processing or conditioning at its 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 MPLX’s and ANDX’s producer customers, such prices also indirectly affect profitability. MPLX has a committee comprised of senior management that oversees risk management activities, continually monitors the risk management program and adjusts its strategy as conditions warrant. Derivative contracts utilized for crude oil, natural gas and NGLs are swaps and options traded on the OTC market and fixed price forward contracts. As a result of MPLX’s current derivative positions, it believes that it has mitigated a portion of its expected commodity price risk through the fourth quarter of 2019. 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. ANDX does not hedge its exposure using commodity derivative instruments because of the minimal impact of commodity price risk on its liquidity, financial position and results of operations.

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. A separate agreement with certain counterparties allows MarkWest Liberty Midstream to enter into derivative positions without posting cash collateral. 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, 2018 and 2017, respectively.

(In millions)	2018	2017
Realized loss on settled derivative positions	(11)	(27)
Unrealized gain (loss) on open net derivative positions	(35)	6
Net loss	(46)	(21)

See Item 8. Financial Statements and Supplementary Data – Note 18 for additional information on our open derivative positions at December 31, 2018.

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, 2018 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, 2018				
Crude	$ (22)	$ (55)	$ 22	$ 55
Refined products	3	7	(3)	(7)
Blending products	(8)	(19)	8	19
Embedded derivatives	(6)	(15)	6	15

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, 2018 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 19 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 capital leases, as of December 31, 2018 is provided in the following table. Fair value of cash and cash equivalents, receivables, accounts payable and accrued interest approximate carrying value and 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 Twelve Months Ended December 31, 2018[(c)]
Long-term debt					
Fixed-rate	$	25,272	$	2,052	n/a
Variable-rate		1,247		n/a	5

(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, 2018.
(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, 2018.

See Item 8. Financial Statements and Supplementary Data – Note 17 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. We did not utilize derivatives to hedge our market risk exposure to these foreign exchange rate fluctuations in 2018.

Counterparty Risk

We are subject to risk of loss resulting from nonpayment by our customers to whom we provide services or sell natural gas or NGLs. We believe that certain contracts would allow us to pass those losses through to our customers, thus reducing our risk, when we are selling NGLs and acting as our producer customers' agent. Our credit exposure related to these customers is represented by the value of our trade receivables. Where exposed to credit risk, we analyze the customer's financial condition prior to entering into a transaction or agreement, establish credit terms and monitor the appropriateness of these terms on an ongoing basis. In the event of a customer default, we may sustain a loss and our cash receipts could be negatively impacted.

We are subject to risk of loss resulting from nonpayment or nonperformance by counterparties or future commission merchants. 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. These 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. This counterparty credit risk does not apply to our embedded derivative as the overall value is a liability. We regularly review the creditworthiness of counterparties and futures commission merchants and enter into master netting agreements when appropriate.

These quantitative and qualitative disclosures about market risk include forward-looking statements with respect to management's opinion about risks associated with the use of derivative instruments. These statements are based on certain assumptions with respect to interest rates as well as market prices and industry supply of and demand for crude oil, other refinery feedstocks, refined products, natural gas, NGLs and ethanol. If these assumptions prove to be inaccurate, future outcomes with respect to our use of derivative instruments may differ materially from those discussed in the forward-looking statements.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index

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/ Gary R. Heminger	/s/ Timothy T. Griffith	/s/ John J. Quaid
Gary R. Heminger *Chairman of the Board and* *Chief Executive Officer*	*Timothy T. Griffith* *Senior Vice President and* *Chief Financial Officer*	*John J. Quaid* *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 Rules 13a-15(f) under the Securities Exchange Act of 1934). 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, 2018.

On October 1, 2018, the Company completed its acquisition of Andeavor. Accordingly, the acquired assets and liabilities of Andeavor are included in our consolidated balance sheet as of December 31, 2018 and the results of its operations and cash flows are reported in our consolidated statements of income and cash flows from October 1, 2018 through December 31, 2018. We have elected to exclude Andeavor from the Company's assessment of internal control over financial reporting as of December 31, 2018. Andeavor represented approximately 27% of consolidated total assets as of December 31, 2018 and 12% of total revenues and other income for the year ended December 31, 2018.

The effectiveness of MPC's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

/s/ Gary R. Heminger	/s/ Timothy T. Griffith
Gary R. Heminger *Chairman of the Board and* *Chief Executive Officer*	*Timothy T. Griffith* *Senior 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, 2018 and 2017, 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, 2018, 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, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 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, 2018, 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.

As described in Management's Report on Internal Control over Financial Reporting, management has excluded Andeavor from its assessment of internal control over financial reporting as of December 31, 2018 because it was acquired by the Company in a purchase business combination during 2018. We have also excluded Andeavor from our audit of internal control over financial reporting. Andeavor is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 27% and 12%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

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.

/s/PricewaterhouseCoopers LLP

Toledo, Ohio
February 28, 2019

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF INCOME

(In millions, except per share data)	2018	2017	2016
Revenues and other income:			
Sales and other operating revenues[a]	$ 95,750	$ 74,104	$ 63,277
Sales to related parties	754	629	62
Income (loss) from equity method investments	373	306	(185)
Net gain on disposal of assets	23	10	32
Other income	202	320	178
Total revenues and other income	97,102	75,369	63,364
Costs and expenses:			
Cost of revenues (excludes items below)[a]	85,456	66,519	56,676
Purchases from related parties	610	570	509
Inventory market valuation adjustment	—	—	(370)
Impairment expense	—	—	130
Depreciation and amortization	2,490	2,114	2,001
Selling, general and administrative expenses	2,418	1,694	1,597
Other taxes	557	454	435
Total costs and expenses	91,531	71,351	60,978
Income from operations	5,571	4,018	2,386
Net interest and other financial costs	1,003	674	564
Income before income taxes	4,568	3,344	1,822
(Benefit) provision for income taxes	962	(460)	609
Net income	3,606	3,804	1,213
Less net income (loss) attributable to:			
Redeemable noncontrolling interest	75	65	41
Noncontrolling interests	751	307	(2)
Net income attributable to MPC	$ 2,780	$ 3,432	$ 1,174
Per Share Data (See Note 8)			
Basic:			
Net income attributable to MPC per share	$ 5.36	$ 6.76	$ 2.22
Weighted average shares outstanding	518	507	528
Diluted:			
Net income attributable to MPC per share	$ 5.28	$ 6.70	$ 2.21
Weighted average shares outstanding	526	512	530

[a] The 2018 period reflects an election to present certain taxes on a net basis concurrent with our adoption of ASU 2014-09, Revenue - Revenue from Contracts with Customers (“ASC 606”). See Notes 2 and 3 for further information.

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions)	2018	2017	2016
Net income	$ 3,606	$ 3,804	$ 1,213
Other comprehensive income (loss):			
Defined benefit postretirement and post-employment plans:			
Actuarial changes, net of tax of $14, $17 and $69, respectively	75	29	115
Prior service costs, net of tax of $12, ($16) and ($18), respectively	8	(26)	(31)
Other, net of tax of $1, $0 and $0, respectively	4	—	—
Other comprehensive income	87	3	84
Comprehensive income	3,693	3,807	1,297
Less comprehensive income (loss) attributable to:			
Redeemable noncontrolling interest	75	65	41
Noncontrolling interests	751	307	(2)
Comprehensive income attributable to MPC	$ 2,867	$ 3,435	$ 1,258

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED BALANCE SHEETS

(In millions, except share data)	December 31, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 1,687	$ 3,011
Receivables, less allowance for doubtful accounts of $9 and $11, respectively	5,853	4,695
Inventories	9,837	5,550
Other current assets	646	145
Total current assets	18,023	13,401
Equity method investments	5,898	4,787
Property, plant and equipment, net	45,058	26,443
Goodwill	20,184	3,586
Other noncurrent assets	3,777	830
Total assets	$ 92,940	$ 49,047
Liabilities		
Current liabilities:		
Accounts payable	$ 9,366	$ 8,297
Payroll and benefits payable	1,152	591
Accrued taxes	1,446	670
Debt due within one year	544	624
Other current liabilities	708	296
Total current liabilities	13,216	10,478
Long-term debt	26,980	12,322
Deferred income taxes	4,864	2,654
Defined benefit postretirement plan obligations	1,509	1,099
Deferred credits and other liabilities	1,318	666
Total liabilities	47,887	27,219
Commitments and contingencies (see Note 25)		
Redeemable noncontrolling interest	1,004	1,000
Equity		
MPC stockholders’ equity:		
Preferred stock, no shares issued and outstanding (par value $0.01 per share, 30 million shares authorized)	—	—
Common stock:		
Issued – 975 million and 734 million shares (par value $0.01 per share, 2 billion shares authorized)	10	7
Held in treasury, at cost – 295 million and 248 million shares	(13,175)	(9,869)
Additional paid-in capital	33,729	11,262
Retained earnings	14,755	12,864
Accumulated other comprehensive loss	(144)	(231)
Total MPC stockholders’ equity	35,175	14,033
Noncontrolling interests	8,874	6,795
Total equity	44,049	20,828
Total liabilities, redeemable noncontrolling interest and equity	$ 92,940	$ 49,047

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In millions)	2018	2017	2016
Operating activities:			
Net income	$ 3,606	$ 3,804	$ 1,213
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred financing costs and debt discount	70	64	61
Impairment expense	—	—	130
Depreciation and amortization	2,490	2,114	2,001
Inventory market valuation adjustment	—	—	(370)
Pension and other postretirement benefits, net	90	47	9
Deferred income taxes	47	(1,233)	394
Net gain on disposal of assets	(23)	(10)	(32)
(Income) loss from equity method investments	(373)	(306)	185
Distributions from equity method investments	519	391	317
Changes in the fair value of derivative instruments	(62)	116	(41)
Changes in operating assets and liabilities, net of effects of businesses acquired:			
Current receivables	1,589	(1,093)	(674)
Inventories	931	106	(70)
Current accounts payable and accrued liabilities	(2,798)	2,814	985
All other, net	72	(202)	(91)
Net cash provided by operating activities	6,158	6,612	4,017
Investing activities:			
Additions to property, plant and equipment	(3,578)	(2,732)	(2,892)
Acquisitions, net of cash acquired	(3,822)	(249)	—
Disposal of assets	54	79	101
Investments – acquisitions, loans and contributions	(409)	(805)	(288)
– redemptions, repayments and return of capital	16	62	—
All other, net	69	247	112
Net cash used in investing activities	(7,670)	(3,398)	(2,967)
Financing activities:			
Commercial paper – issued	—	300	1,263
– repayments	—	(300)	(1,263)
Long-term debt – borrowings	13,476	2,911	864
– repayments	(8,032)	(642)	(2,269)
Debt issuance costs	(86)	(33)	(11)
Issuance of common stock	24	46	11
Common stock repurchased	(3,287)	(2,372)	(197)
Dividends paid	(954)	(773)	(719)
Issuance of MPLX LP common units	—	473	776
Issuance of MPLX LP redeemable preferred units	—	—	984
Distributions to noncontrolling interests	(903)	(694)	(542)
Contributions from noncontrolling interests	12	129	6
Contingent consideration payment	—	(89)	(164)
All other, net	(28)	(47)	(33)
Net cash provided by (used in) financing activities	222	(1,091)	(1,294)
Net increase (decrease) in cash, cash equivalents and restricted cash	(1,290)	2,123	(244)
Cash, cash equivalents and restricted cash at beginning of period	3,015	892	1,136
Cash, cash equivalents and restricted cash at end of period	$ 1,725	$ 3,015	$ 892

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF EQUITY AND REDEEMABLE NONCONTROLLING INTEREST

	MPC Stockholders' Equity									
	Common Stock		Treasury Stock							
(In millions)	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, 2015	729	$ 7	(198)	$ (7,275)	$ 11,071	$ 9,752	$ (318)	$ 6,438	$19,675	$ —
Net income (loss)	—	—	—	—	—	1,174	—	(2)	1,172	41
Dividends declared on common stock ($1.36 per share)	—	—	—	—	—	(720)	—	—	(720)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(517)	(517)	(25)
Contributions from noncontrolling interests	—	—	—	—	—	—	—	6	6	—
Other comprehensive income	—	—	—	—	—	—	84	—	84	—
Shares repurchased	—	—	(4)	(197)	—	—	—	—	(197)	—
Stock-based compensation	2	—	(1)	(10)	46	—	—	6	42	—
Impact from equity transactions of MPLX	—	—	—	—	(57)	—	—	715	658	—
Issuance of MPLX LP redeemable preferred units	—	—	—	—	—	—	—	—	—	984
Balance as of December 31, 2016	731	$ 7	(203)	$ (7,482)	$ 11,060	$10,206	$ (234)	$ 6,646	$20,203	$ 1,000
Net income	—	—	—	—	—	3,432	—	307	3,739	65
Dividends declared on common stock ($1.52 per share)	—	—	—	—	—	(774)	—	—	(774)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(629)	(629)	(65)
Contributions from noncontrolling interests	—	—	—	—	—	—	—	129	129	—
Other comprehensive income	—	—	—	—	—	—	3	—	3	—
Shares repurchased	—	—	(44)	(2,372)	—	—	—	—	(2,372)	—
Stock-based compensation	3	—	(1)	(15)	92	—	—	8	85	—
Impact from equity transactions of MPLX	—	—	—	—	110	—	—	334	444	—
Balance as of December 31, 2017	734	$ 7	(248)	$ (9,869)	$ 11,262	$12,864	$ (231)	$ 6,795	$20,828	$ 1,000
Cumulative effect of adopting new accounting standards	—	—	—	—	—	66	—	2	68	—
Net income		—	—	—	—	2,780	—	751	3,531	75
Dividends declared on common stock ($1.84 per share)	—	—	—	—	—	(955)	—	—	(955)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(832)	(832)	(71)
Contributions from noncontrolling interests	—	—	—	—	—	—	—	12	12	—
Other comprehensive income	—	—	—	—	—	—	87	—	87	—
Shares repurchased	—	—	(47)	(3,287)	—	—	—	—	(3,287)	—
Stock based compensation	1	1	—	(18)	345	—	—	14	342	—
Impact from equity transactions of MPLX & ANDX	—	—	—	—	2,357	—	—	(2,927)	(570)	—
Issuance of shares for Andeavor acquisition	240	2	—	(1)	19,765	—	—	—	19,766	—
Noncontrolling interest acquired from Andeavor	—	—	—	—	—	—	—	5,059	5,059	—
Balance as of December 31, 2018	975	$ 10	(295)	$ (13,175)	$ 33,729	$14,755	$ (144)	$ 8,874	$44,049	$ 1,004

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 with more than 3 million barrels per day of crude oil capacity across 16 refineries. MPC's marketing system includes branded locations across the United States, which primarily include Marathon branded outlets. We own and operate retail convenience stores across the United States. We also own the general partner and majority limited partner interests in two midstream companies, MPLX LP ("MPLX") and Andeavor Logistics LP ("ANDX"), which own and operate crude oil and light product transportation and logistics infrastructure as well as gathering, processing, and fractionation assets.

Refer to Note 5 for further information on the Andeavor acquisition, which closed on October 1, 2018, and to Note 10 for additional information about our operations.

Basis of Presentation

Our results of operations and cash flows consist of consolidated MPC activities. All significant intercompany transactions and accounts have been eliminated.

Certain prior period financial statement amounts have been reclassified to conform to current period presentation.

2. SUMMARY OF PRINCIPAL ACCOUNTING POLICIES

Principles Applied in Consolidation

These consolidated financial statements include the accounts of our majority-owned, controlled subsidiaries, MPLX and ANDX. Changes in ownership interest in consolidated subsidiaries that do not result in a change in control are recorded as an equity transaction. As of December 31, 2018, we owned 63.6 percent of the outstanding MPLX common units and 63.6 percent of the outstanding ANDX common units and 100 percent of the general partner interest for each entity. Due to our ownership of the general partner interest, we have determined that we control MPLX and ANDX and therefore we consolidate MPLX and ANDX and record a noncontrolling interest for the interest owned by the public.

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 the 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.

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. Concurrent with our adoption of ASU 2014-09, Revenue from Contracts with Customers ("ASC 606"), 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.

The adoption of ASC 606 did not materially change our revenue recognition patterns, which 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.

- Retail - Revenue is recognized when our customers receive control of the transportation fuels or merchandise. Payments from customers are received at the time sales occur in cash or by credit or debit card at our company-owned and operated retail locations and shortly after delivery for our direct dealers. Our retail operations offer a loyalty rewards program to its customers. We defer a minor portion of revenue on sales to the loyalty program participants until the participants redeem their rewards. The related contract liability, as defined in ASC 606, is not material to our financial statements.
- 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 sales of 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 10 for disclosure of our revenue disaggregated by segment and product line, as well as 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.

Restricted Cash

Restricted cash consists of cash and investments that must be maintained as collateral for letters of credit issued to certain third-party producer customers. The balances will be outstanding until certain capital projects are completed and the third party releases the restriction. Restricted cash also consists of cash advances to be used for the operation and maintenance of an operated pipeline system.

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 180 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.

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, refinery feedstocks 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.

Derivative Instruments

We use derivatives to economically hedge a portion of our exposure to commodity price risk and, historically, to interest rate risk. We also have limited authority to use selective derivative instruments that assume market risk. 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 and (6) the purchase of natural gas. 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, which range from three to 51 years. 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 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. The impairment test requires allocating goodwill and other assets and liabilities to reporting units. The fair value of each reporting unit is determined and compared to the carrying value of the reporting unit. The fair value is calculated using the expected present value of future cash flows method. Significant assumptions used in the cash flow forecasts include future net operating margins, future volumes, discount rates, and future capital requirements. If the carrying amount of the reporting unit exceeds its fair value, an impairment loss shall be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit.

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, the removal of underground storage tanks at our leased convenience stores, 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.

Our short-term asset retirement obligations were $30 million and $6 million at December 31, 2018 and 2017, respectively, which are included in other current liabilities in our consolidated balance sheets. Our long-term asset retirement obligations were $222 million and $121 million at December 31, 2018 and 2017, respectively, which are included in deferred credits and other liabilities in our consolidated balance sheets. The increase in our asset retirement obligation was mainly due to obligations recognized in connection with the purchase accounting for the Andeavor acquisition.

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, retail, 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.

Stock-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 stock-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 stock-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 surplus 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 all 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 the state of California, 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 or other noncurrent assets on the balance sheet, 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 or other noncurrent liabilities on the balance sheet, 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 income statement. Any gains or losses on the sale or expiration of allowances or credits are classified as other income on the income statement. Proceeds from offset or credits sales are included in investing activities - all other, net on the cash flow statement.

3. ACCOUNTING STANDARDS

Recently Adopted

ASU 2014-09, Revenue - Revenue from Contracts with Customers (ASC 606)

On January 1, 2018, we adopted the new revenue standard, applying the modified retrospective method, whereby a cumulative effect is recorded to opening retained earnings and ASC 606 is applied prospectively. We recorded a net increase of $4 million to our retained earnings balance as of January 1, 2018 due to the cumulative effect of applying the new revenue standard.

Impact of Adoption

The adoption of ASC 606 did not materially change our revenue recognition patterns. The most significant impacts of adopting ASC 606 for the period ended December 31, 2018 are as follows:

- a reduction of sales and other operating revenues of $6.66 billion for the year ended December 31, 2018 due to our accounting policy election to present taxes incurred concurrently with revenue producing transactions and collected on behalf of our customers on a net basis. For the year ended December 31, 2017, taxes are reflected on a gross basis in sales and other operating revenues and cost of revenues, and include $5.15 billion of taxes that are now subject to our net basis accounting policy election.
- an increase to both sales and other operating revenues and cost of revenues of $502 million for the year ended December 31, 2018 related to certain Midstream contract provisions for third-party reimbursements, non-cash consideration and imbalances that require gross presentation under ASC 606. Comparative information continues to be reported under the accounting standards in effect for those periods.

Practical Expedients

We elected the completed contract practical expedient and only applied ASC 606 to contracts that were not completed as of January 1, 2018.

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, 2018, 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, 2018 include matching buy/sell receivables of $1.64 billion and income taxes receivables of $88 million.

ASU 2016-16, Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory

We adopted this ASU in the first quarter of 2018 and recorded a $62 million cumulative-effect adjustment as an increase to retained earnings as of January 1, 2018 with the offset recorded as a reduction to deferred income taxes.

We also adopted the following ASUs during 2018, none of which had a material impact to our financial statements or financial statement disclosures:

ASU		Effective Date
2017-09	Stock Compensation - Scope of Modification Accounting	January 1, 2018
2017-07	Retirement Benefits - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Cost	January 1, 2018
2017-05	Gains and Losses from the Derecognition of Nonfinancial Assets - Clarifying the Scope of Asset Derecognition Guidance	January 1, 2018
2017-01	Business Combinations - Clarifying the Definition of a Business	January 1, 2018
2016-18	Statement of Cash Flows - Restricted Cash	January 1, 2018
2016-15	Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments	January 1, 2018
2016-01	Financial Instruments - Recognition and Measurement of Financial Assets and Liabilities	January 1, 2018

Not Yet Adopted

ASU 2018-02, Reporting Comprehensive Income - Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

In February 2018, the FASB issued an ASU allowing an entity the choice to reclassify to retained earnings the tax effects related to the TCJA that are stranded in accumulated other comprehensive income. The amendment was effective January 1, 2019. We do not expect the application of this accounting standard update to have a material impact on our consolidated financial statements.

ASU 2017-12, Derivatives and Hedging - Targeted Improvements to Accounting for Hedging Activities

In August 2017, the FASB issued an ASU to amend the hedge accounting rules to simplify the application of hedge accounting guidance and better portray the economic results of risk management activities in the financial statements. The guidance expands the ability to hedge nonfinancial and financial risk components, reduces complexity in fair value hedges of interest rate risk, eliminates the requirement to separately measure and report hedge ineffectiveness and eases certain hedge effectiveness assessment requirements. The guidance was effective January 1, 2019. We do not expect the application of this accounting standard update to have a material impact on our consolidated financial statements.

ASU 2017-04, Intangibles - Goodwill and Other - Simplifying the Test for Goodwill Impairment

In January 2017, the FASB issued an ASU which simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. Under the new guidance, the recognition of an impairment charge is calculated based on the amount by which the carrying amount exceeds the reporting unit’s fair value, which could be different from the amount calculated under the current method using the implied fair value of the goodwill; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The guidance should be applied on a prospective basis, and is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019.

ASU 2016-13, Credit Losses - Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued an ASU related to the accounting for credit losses on certain financial instruments. The guidance requires that for most financial assets, losses be based on an expected loss approach which includes estimates of losses over the life of exposure that considers historical, current and forecasted information. Expanded disclosures related to the methods used to estimate the losses as well as a specific disaggregation of balances for financial assets are also required. The change is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. We do not expect application of this ASU to have a material impact on our consolidated financial statements.

ASU 2016-02 Leases and related updates

In February 2016, the FASB issued an ASU requiring lessees to record virtually all leases on their balance sheets. The ASU also requires expanded disclosures to help financial statement users better understand the amount, timing and uncertainty of cash flows arising from leases. For lessors, this amended guidance modifies the classification criteria and the accounting for sales-type and direct financing leases. The guidance will be effective for fiscal years beginning after December 15, 2018, and interim periods within those years. As of January 1, 2019, we have transitioned to the new guidance.

As part of implementing this standard, we evaluated the impact of this standard on our financial statements, disclosures, internal controls and accounting policies. This evaluation process included reviewing all forms of leases, performing a completeness assessment over the lease population and analyzing the practical expedients in order to determine the best path of implementing changes to existing processes and controls. We have implemented a third-party supported lease accounting information system to account for our lease population in accordance with this new standard and established internal controls over the new system. We expect that adoption of the standard will result in the recognition of right-of-use assets and lease liabilities for operating leases on January 1, 2019 in the range of $2.5 billion to $3.0 billion. The adoption of ASC 842 will not have a material impact on our consolidated statements of income or cash flows, except for the potential effects from lease modifications where MPLX is the lessor as discussed below.

In addition, based on the changes presented in the standard, MPLX, as a lessor, may be required to re-classify existing operating leases to sales-type leases upon modification and related reassessment of the leases. If such modification were to occur, it may result in a de-recognition of existing assets, recognition of a receivable in the amount of the present value of fixed payments expected to be received by MPLX under the lease, and recognition of a corresponding gain or loss in the period of change.

4. MASTER LIMITED PARTNERSHIPS

MPLX

MPLX is a diversified, large-cap publicly traded master limited partnership formed by us to own, operate, develop and acquire midstream energy infrastructure assets. MPLX is engaged in the transportation, storage and distribution of crude oil and refined petroleum products; gathering, processing and transportation of natural gas; and the gathering, transportation, fractionation, storage and marketing of NGLs.As of December 31, 2018, we owned 63.6 percent of the outstanding MPLX common units and we control MPLX through our ownership of the general partner of MPLX.

Private Placement of Preferred Units

On May 13, 2016, MPLX completed the private placement of approximately 30.8 million 6.5 percent Series A Convertible Preferred Units (the “MPLX Preferred Units”) at a cash price of $32.50 per unit. The aggregate net proceeds of approximately $984 million from the sale of the MPLX Preferred Units were used by MPLX for capital expenditures, repayment of debt and general partnership purposes.

The MPLX Preferred Units rank senior to all MPLX common units with respect to distributions and rights upon liquidation. The holders of the MPLX Preferred Units received cumulative quarterly distributions equal to $0.528125 per unit for the quarters prior to the second quarter of 2018. Beginning with the second quarter of 2018, the holders of the MPLX Preferred Units are entitled to receive a quarterly distribution equal to the greater of $0.528125 per unit or the amount of distributions they would have received on an as converted basis. For the income earned in the second through fourth quarters of 2018, the distribution rate declared to MPLX common unitholders was greater than $0.528125 per unit; accordingly, the holders of the MPLX Preferred Units received the common unit rates in lieu of the lower $0.528125 base amount.

The MPLX Preferred Units are considered redeemable securities due to the existence of redemption provisions upon a deemed liquidation event which is considered outside MPLX’s control. Therefore, they are presented as temporary equity in the mezzanine section of the consolidated balance sheets. We have recorded the MPLX Preferred Units at their issuance date fair value, net of issuance costs. Since the MPLX Preferred Units are not currently redeemable and not probable of becoming redeemable in the future, adjustment to the initial carrying amount is not necessary and would only be required if it becomes probable that the security would become redeemable.

Dropdowns to MPLX and GP/IDR Exchange

On February 1, 2018, we contributed our refining logistics assets and fuels distribution services to MPLX in exchange for $4.1 billion in cash and approximately 112 million common units and 2 million general partner units from MPLX. MPLX financed the cash portion of the transaction with its $4.1 billion 364-day term loan facility, which was entered into on January 2, 2018. We agreed to waive approximately one-third of the first quarter 2018 distributions on the common units issued in connection with this transaction. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

Immediately following the February 1, 2018 dropdown to MPLX, our IDRs were cancelled and our economic general partner interest was converted into a non-economic general partner interest, all in exchange for 275 million newly issued MPLX common units ("GP/IDR Exchange"). As a result of this transaction, the general partner units and IDRs were eliminated, are no longer outstanding and longer participate in distributions of cash from MPLX.

On September 1, 2017, we contributed our joint-interest ownership in certain pipelines and storage facilities to MPLX in exchange for $420 million in cash and approximately 19 million MPLX common units and 378 thousand general partner units from MPLX. We also agreed to waive approximately two-thirds of the third quarter 2017 common unit distributions, IDRs and general partner distributions with respect to the common units issued in this transaction. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

On March 1, 2017, we contributed certain terminal, pipeline and storage assets to MPLX in exchange total consideration of $1.5 billion in cash and approximately 13 million common units and 264 thousand general partner units from MPLX. We also agreed to waive two-thirds of the first quarter 2017 common unit distributions, IDRs and general partner distributions with respect to the common units issued in the transaction. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

On March 31, 2016, we contributed our inland marine business to MPLX in exchange for 23 million MPLX common units and 460 thousand MPLX general partner units. We also agreed to waive first-quarter 2016 common unit distributions, IDRs and general partner distributions with respect to the common units issued in this transaction. The contribution of our inland marine business was accounted for as a transaction between entities under common control and therefore, we did not record a gain or loss.

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. Under certain agreements, we commit to provide MPLX with minimum quarterly throughput and distribution volumes of crude oil and refined products and minimum storage volumes of crude oil, refined products and butane. Under certain other agreements, we commit to pay for 100 percent of available capacity for certain marine transportation and refining logistics assets. 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 Refining & Marketing and Midstream segments.

ANDX

Through the Andeavor acquisition, we acquired control of ANDX, which is a publicly traded limited partnership that was formed to own, operate, develop and acquire logistics assets. Its assets are integral to the success of our refining and marketing operations and are used to gather crude oil, natural gas, and water, process natural gas and distribute, transport and store crude oil and refined products. ANDX provides us with various pipeline transportation, trucking, terminal distribution, storage and petroleum-coke handling services under long-term, fee-based commercial agreements. Each of these agreements, with the exception of the storage and transportation services agreement, contain minimum volume commitments.

As of December 31, 2018, we owned 63.6 percent of the outstanding ANDX common units. We also hold 80,000 ANDX TexNew Mex Units and all the outstanding non-economic general partner interests as of December 31, 2018.

Noncontrolling Interest

As a result of equity transactions of MPLX and ANDX, 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 and ANDX were as follows:

(In millions)	2018	2017	2016
Increase (decrease) due to the issuance of MPLX & ANDX common units to the public	$ 6	$ 25	$ (60)
Increase due to the issuance of MPLX & ANDX common units and general partner units to MPC	1,114	114	121
Increase due to GP/IDR Exchange	1,808	—	—
Increase in MPC's additional paid-in capital	2,928	139	61
Tax impact	(571)	(29)	(118)
Increase (decrease) in MPC's additional paid-in capital, net of tax	$ 2,357	$ 110	$ (57)

5. ACQUISITIONS

Acquisition of Andeavor

On October 1, 2018, we acquired all the outstanding shares of Andeavor. Under the terms of the merger agreement, Andeavor stockholders had the option to choose 1.87 shares of MPC common stock or $152.27 in cash per share of Andeavor common stock. The merger agreement included election proration provisions that resulted in approximately 22.9 million shares of Andeavor common stock being converted into cash consideration and the remaining 128.2 million shares of Andeavor common stock being converted into stock consideration. Andeavor stockholders received in the aggregate approximately 239.8 million shares of MPC common stock valued at $19.8 billion and approximately $3.5 billion in cash in connection with the Andeavor acquisition. The fair value of the MPC shares issued was determined on the basis of the closing market price of MPC’s common shares on the acquisition date. The cash portion of the purchase price was funded using cash on hand.

At the time of the acquisition, all Andeavor equity awards, with the exception of non-employee director units, were converted to MPC equity awards. The converted equity awards will continue to be governed by the same terms and conditions as were applicable to such Andeavor equity awards immediately prior to the acquisition. We recognized $203 million of purchase consideration to reflect the portion of the fair value of the time-based converted equity awards attributable to pre-combination service completed by the award holders. The non-employee director units were accelerated in full and cancelled and the holders of such units received an amount of cash equal to the number of shares of Andeavor common stock subject to such non-employee director units multiplied by the cash consideration per share.

Our financial reflect the results of Andeavor from October 1, 2018, the date of the acquisition.

The components of the fair value of consideration transferred are as follows:

(In millions)	
Fair value of MPC shares issued	$ 19,766
Cash payment to Andeavor stockholders	3,486
Cash settlement of non-employee director units	7
Fair value of converted equity awards	203
Total fair value of consideration transferred	$ 23,462

We accounted for the Andeavor acquisition using the acquisition method of accounting, which requires Andeavor assets and liabilities to be recorded to our balance sheet at fair value as of the acquisition date. We will complete a final determination of the fair value of certain assets and liabilities within the one year measurement period from the date of the acquisition as required by FASB ASC Topic 805, “Business Combinations”. Due to the level of effort required to develop fair value measurements and the proximity of the acquisition date to December 31, 2018, the valuation studies necessary to determine the fair value of assets acquired and liabilities assumed are preliminary, including the underlying cash flows used to determine the fair value of identified intangible assets and economic obsolescence adjustments to property, plant and equipment. The size and the breath of the Andeavor acquisition necessitates the use of the one year measurement period to fully analyze all the factors used in establishing the asset and liability fair values as of the acquisition date, including, but not limited to, property, plant and equipment, intangible assets, real property, leases, environmental and asset retirement obligations and the related tax impacts of any changes made. Any potential adjustments made could be material in relation to the preliminary values presented below.

(In millions)		
Cash and cash equivalents	$	382
Receivables		2,744
Inventories		5,204
Other current assets		378
Equity method investments		865
Property, plant and equipment, net		16,545
Other noncurrent assets[(a)]		3,086
Total assets acquired		29,204
Accounts payable		4,003
Payroll and benefits payable		348
Accrued taxes		590
Debt due within one year		34
Other current liabilities		392
Long-term debt		8,875
Deferred income taxes		1,609
Defined benefit postretirement plan obligations		432
Deferred credit and other liabilities		714
Noncontrolling interests		5,059
Total liabilities and noncontrolling interest assumed		22,056
Net assets acquired excluding goodwill		7,148
Goodwill		16,314
Net assets acquired	$	23,462

(a) Includes intangible assets.

Details of our valuation methodology and significant inputs for fair value measurements are included by asset class below. The fair value measurements for equity method investments, property, plant and equipment, intangible assets and long-term debt are based on significant inputs that are not observable in the market and, therefore, represent Level 3 measurements.

Goodwill

The preliminary purchase consideration allocation resulted in the recognition of $16.3 billion in goodwill, of which $893 million is tax deductible due to a carryover basis from Andeavor. Our Refining & Marketing, Midstream and Retail segments recognized $4.7 billion, $7.7 billion and $3.9 billion of preliminary goodwill. The recognized goodwill represents the value expected to be created by further optimization of crude supply, a nationwide retail and marketing platform, diversification of our refining and midstream footprints and optimization of information systems and business processes.

Inventory

The fair value of inventory was determined by recognizing crude oil and feedstocks at market prices as of October 1, 2018 and recognizing refined product inventory at market prices less selling costs and profit margin associated with the remaining distribution process.

Equity Method Investments

The fair value of the equity method investments was determined based on applying income and market approaches. The income approach relied on the discounted cash flow method and the market approach relied on a market multiple approach considering historical and projected financial results. Discount rates for the discounted cash flow models were based on capital structures for similar market participants and included various risk premiums that account for risks associated with the specific investments. For more information about our equity method investments, see Note 14.

Property, Plant and Equipment

The preliminary fair value of property, plant and equipment is $16.5 billion, which is based primarily on the cost approach. Key assumptions in the cost approach include determining the replacement cost by evaluating recent purchases of similar assets or published data, and adjusting replacement cost for economic and functional obsolescence, location, normal useful lives, and capacity (if applicable).

Acquired Intangible Assets

The preliminary fair value of the acquired identifiable intangible assets is $2.8 billion, which represents the value of various customer contracts and relationships, brand rights and tradenames and other intangible assets. The preliminary fair value of customer contracts and relationships is $2.5 billion, which was valued by applying the multi-period excess earnings method, which is an income approach. Key assumptions in the income approach include the underlying contract cash flow estimates, remaining contract term, probability of renewal, growth rates and discount rates. Brand rights and tradenames were valued by applying the relief of royalty method, which is an income approach. The intangible assets are all finite lived and will be amortized over 2 to 10 years.

Debt

The fair value of the Andeavor and ANDX unsecured notes was measured using a market approach, based upon the average of quotes for the acquired debt from major financial institutions and a third-party valuation service. Additionally, $1.5 billion of borrowings under revolving credit agreements and other debt of approximately $200 million approximated fair value.

Noncontrolling Interest

Through the Andeavor acquisition, we acquired the general partnership interest of ANDX, which is a VIE because the limited partners of ANDX do not have substantive kick-out or substantive participating rights over the general partner. We are the primary beneficiary of ANDX because in addition to our significant economic interest, we also have the ability, through our 100 percent ownership of the general partner, to control the decisions that most significantly impact ANDX. The fair value of the noncontrolling interest in ANDX was based on the share price, shares outstanding and the percent of public unitholders of ANDX on October 1, 2018. The share price of ANDX is a Level 1 measurement.

Acquisition Costs

We recognized $47 million in acquisition costs. Additionally, we recognized various other transaction-related costs, including employee-related costs associated with the Andeavor acquisition. All of these costs are reflected in selling, general and administrative expenses for the year ended December 31, 2018. The employee-related costs are primarily due to pre-existing Andeavor change in control and equity award agreements that create obligations and accelerated equity vesting upon MPC notifying employees of significant changes to or elimination of their responsibilities as part of our ongoing integration efforts.

Andeavor Revenues and Income from Operations

Andeavor’s results have been included in MPC’s financial statements for the period subsequent to the date of the acquisition on October 1, 2018. Andeavor contributed revenues of approximately $11.3 billion for the period from October 1 through December 31, 2018. We do not believe it is practical to disclose Andeavor’s contribution to earnings for the period from October 1, 2018 through December 31, 2018 as our integration efforts have resulted in the elimination of Andeavor stand-alone discrete financial information due mainly to our inclusion of Andeavor inventory in our consolidated LIFO inventory pools, which does not allow us to objectively distinguish the cost of sales between the two historical reporting entities.

Pro Forma Financial Information

The following unaudited pro forma financial information presents consolidated results assuming the Andeavor acquisition occurred on January 1, 2017.

(In millions, except per share data)	2018	2017
Sales and other operating revenues[(a)]	$ 131,695	$ 117,549
Net income attributable to MPC	4,371	4,832
Net income attributable to MPC per share – basic	$ 8.44	$ 6.47
Net income attributable to MPC per share – diluted	8.31	6.41

(a) The 2018 period reflects an election to present certain taxes on a net basis concurrent with our adoption of ASC 606.

The pro forma information includes adjustments to align accounting policies, an adjustment to depreciation expense to reflect the increased fair value of property, plant and equipment, increased amortization expense related to identifiable intangible assets and the related income tax effects. The pro forma information does not reflect the $727 million effect on net income attributable to MPC related to purchase accounting related inventory effects and transaction-related costs as these charges do not have a continuing impact on the consolidated results.

Acquisition of Express Mart

During the fourth quarter of 2018, Speedway acquired 78 store locations from Petr-All Petroleum Consulting Corporation for total consideration of $266 million. These stores are located primarily in the Syracuse, Rochester and Buffalo markets in New York and operate under the Express Mart brand.

Based on the final fair value estimates of assets acquired and liabilities assumed at the acquisition date, $97 million of the purchase price was allocated to property, plant and equipment, $9 million to inventory, $2 million to intangibles and $158 million to goodwill. Goodwill is tax deductible and represents the value expected to be created by geographically expanding our retail platform and the assembled workforce.

The amount of revenue and income from operations associated with the acquisition from the acquisition date to December 31, 2018 did not have a material impact on the consolidated financial statements. In addition, assuming the acquisition had occurred on January 1, 2017, the consolidated pro forma results would not have been materially different from the reported results.

Acquisition of Mt. Airy Terminal

On September 26, 2018, MPLX acquired an eastern U.S. Gulf Coast export terminal (“Mt. Airy Terminal”) from Pin Oak Holdings, LLC for total consideration of $451 million. The terminal includes 4 million barrels of third-party leased storage capacity and a 120 mbpd dock. The Mt. Airy Terminal is located on the Mississippi River between New Orleans and Baton Rouge, near several Gulf Coast refineries, including our Garyville Refinery, and numerous rail lines and pipelines. The Mt. Airy Terminal is accounted for within the Midstream segment.

Based on the final fair value estimates of assets acquired and liabilities assumed at the acquisition date, $336 million of the purchase price was allocated to property, plant and equipment and $126 million to goodwill with the remaining difference being primarily allocated to net assumed liabilities. Goodwill is tax deductible and represents the significant growth potential of the terminal due to the multiple pipelines and rail lines which cross the property, the terminal’s position as an aggregation point for liquids growth in the region for both ocean-going vessels and inland barges, the proximity of the terminal to our Garyville refinery and other refineries in the region as well as the capability to construct an additional dock at the site.

The amount of revenue and income from operations associated with the acquisition from the terminal acquisition date to December 31, 2018 did not have a material impact on the consolidated financial statements. In addition, assuming the terminal acquisition had occurred on January 1, 2017, the consolidated pro forma results would not have been materially different from the reported results.

Acquisition of Ozark Pipeline

On March 1, 2017, MPLX acquired the Ozark pipeline from Enbridge Pipelines (Ozark) LLC for approximately $219 million, including purchase price adjustments made in the second quarter of 2017. Based on the fair value of assets acquired and liabilities assumed at the acquisition date, the final purchase price was primarily allocated to property, plant and equipment. The Ozark pipeline is a 433-mile, 22-inch crude oil pipeline originating in Cushing, Oklahoma, and terminating in Wood River, Illinois, capable of transporting approximately 230 mbpd. We present the Ozark pipeline within the Midstream segment.

The amount of revenue and income from operations associated with the acquisition from the acquisition date to December 31, 2017 did not have a material impact on the consolidated financial statements. In addition, assuming the acquisition of the Ozark pipeline had occurred on January 1, 2016, the consolidated pro forma results would not have been materially different from reported results.

Investment in Pipeline Company

On February 15, 2017, MPLX acquired a partial, indirect equity interest in the Dakota Access Pipeline (“DAPL”) and Energy Transfer Crude Oil Company Pipeline (“ETCOP”) projects, collectively referred to as the Bakken Pipeline system, through a joint venture with Enbridge Energy Partners L.P. (“Enbridge Energy Partners”). MPLX contributed $500 million of the $2 billion purchase price paid by the joint venture, MarEn Bakken Company LLC (“MarEn Bakken”), to acquire a 36.75 percent indirect equity interest in the Bakken Pipeline system from Energy Transfer Partners, L.P. (“ETP”) and Sunoco Logistics Partners, L.P. (“SXL”). MPLX holds, through a subsidiary, a 25 percent interest in MarEn Bakken, which equates to an approximate 9.2 percent indirect equity interest in the Bakken Pipeline system. We account for the investment in MarEn Bakken as part of our Midstream segment using the equity method of accounting.

Formation of Gathering and Processing Joint Venture

Effective January 1, 2017, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream LLC (“Sherwood Midstream”), to support the development of Antero Resources Corporation’s Marcellus Shale acreage in West Virginia. MPLX has a 50 percent ownership interest in Sherwood Midstream. In connection with this transaction, MPLX contributed assets then under construction at the Sherwood Complex with a fair value of approximately $134 million and cash of approximately $20 million. Antero Midstream made an initial capital contribution of approximately $154 million.

Also effective January 1, 2017, MPLX converted all of its ownership interests in MarkWest Ohio Fractionation Company, L.L.C. (“Ohio Fractionation”), a previously wholly-owned subsidiary, to Class A Interests and amended its LLC Agreement to create Class B-3 Interests, which were sold to Sherwood Midstream for $126 million in cash. The Class B-3 Interests provide Sherwood Midstream with the right to fractionation revenue and the obligation to pay expenses related to 20 mbpd of capacity in the Hopedale 3 fractionator.

Effective January 1, 2017, MPLX and Sherwood Midstream formed a joint venture, Sherwood Midstream Holdings LLC (“Sherwood Midstream Holdings”), for the purpose of owning, operating and maintaining all of the shared assets for the benefit of and use in the operation of the gas plants and other assets owned by Sherwood Midstream and the gas plants and deethanization facilities owned by MPLX. MPLX contributed certain real property, equipment and facilities with a fair value of approximately $209 million to Sherwood Midstream Holdings in exchange for a 79 percent initial ownership interest. Sherwood Midstream contributed cash of approximately $44 million to Sherwood Midstream Holdings in exchange for a 21 percent initial ownership interest. The net book value of the contributed assets was approximately $203 million. The contribution was determined to be an in-substance sale of real estate. As such, MPLX only recognized a gain for the portion attributable to Antero Midstream’s indirect interest of approximately $2 million.

We account for our direct interests in Sherwood Midstream and Sherwood Midstream Holdings as part of our Midstream segment using the equity method of accounting. We continue to consolidate Ohio Fractionation and have recognized a noncontrolling interest for Sherwood Midstream’s interest in that entity.

See Note 6 for additional information related to the investments in Sherwood Midstream, Ohio Fractionation and Sherwood Midstream Holdings.

Formation of Travel Plaza Joint Venture

In the fourth quarter of 2016, Speedway and Pilot Flying J finalized the formation of a joint venture consisting of travel plazas, primarily in the Southeast United States. The new entity, PFJ Southeast LLC (“PFJ Southeast”), originally consisted of 41 existing locations contributed by Speedway and 82 locations contributed by Pilot Flying J, all of which carry either the Pilot or Flying J brand and are operated by Pilot Flying J. We did not recognize a gain on the $273 million non-cash contribution of our travel plazas to the joint venture since the contribution was that of in-substance real estate. Our non-cash contribution consisted of $203 million of property, plant and equipment, $62 million of goodwill and $8 million of inventory.

6. VARIABLE INTEREST ENTITIES

Consolidated VIEs

We control MPLX and ANDX through our ownership of the general partner of both entities. MPLX and ANDX are VIEs because the limited partners do not have substantive kick-out or substantive participating rights over the general partner. We are the primary beneficiary of both MPLX and ANDX 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 and ANDX. We therefore consolidate MPLX and ANDX and record a noncontrolling interest for the interest owned by the public. We also record a redeemable noncontrolling interest related to MPLX’s preferred units.

The creditors of MPLX and ANDX do not have recourse to MPC’s general credit through guarantees or other financial arrangements. MPC has effectively guaranteed certain indebtedness of LOOP LLC (“LOOP”) and LOCAP LLC (“LOCAP”), in which MPLX holds an interest. See Note 25 for more information.

The assets of MPLX and ANDX can only be used to settle their own obligations and their creditors have no recourse to our assets. The following table present balance sheet information for the assets and liabilities of MPLX and ANDX, which are included in our balance sheets.

	December 31, 2018		December 31, 2017
(In millions)	MPLX	ANDX[(a)]	MPLX
Assets			
Cash and cash equivalents	$ 68	$ 10	$ 5
Receivables, less allowance for doubtful accounts	425	199	299
Inventories	77	22	65
Other current assets	45	57	29
Equity method investments	4,174	602	4,010
Property, plant and equipment, net	14,639	6,845	12,187
Goodwill	2,586	1,051	2,245
Other noncurrent assets	458	1,242	479
Liabilities			
Accounts payable	$ 776	$ 215	$ 621
Payroll and benefits payable	2	10	1
Accrued taxes	48	23	38
Debt due within one year	1	504	1
Other current liabilities	177	77	130
Long-term debt	13,392	4,469	6,945
Deferred income taxes	13	1	5
Defined benefit postretirement plan obligations	—	—	—
Deferred credits and other liabilities	276	68	230

(a) The balances reflected here are ANDX's historical balances as the preliminary purchase accounting adjustments related to ANDX's assets and liabilities in connection with the Andeavor acquisition and reflected on our consolidated balance sheet as of December 31, 2018 have not yet been pushed down to this subsidiary.

Non-Consolidated VIEs

Crowley Coastal Partners

In May 2016, Crowley Coastal Partners LLC ("Crowley Coastal Partner") was formed to own an interest in both Crowley Ocean Partners LLC ("Crowley Ocean Partners") and Crowley Blue Water Partners LLC ("Crowley Blue Water Partners"). We have determined that Crowley Coastal Partners is a VIE based on the terms of the existing financing arrangements for Crowley Blue Water Partners and Crowley Ocean Partners and the associated debt guarantees by MPC and Crowley. Our maximum exposure to loss at December 31, 2018 was $481 million, which includes our equity method investment in Crowley Coastal Partners and the debt guarantees provided to each of the lenders to Crowley Blue Water Partners and Crowley Ocean 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.

MarkWest Utica EMG

On January 1, 2012, MarkWest Utica Operating Company, LLC ("Utica Operating"), a wholly-owned and consolidated subsidiary of MarkWest, and EMG Utica, LLC ("EMG Utica"), executed agreements to form a joint venture, MarkWest Utica EMG LLC ("MarkWest Utica EMG"), to develop significant natural gas gathering, processing and NGL fractionation, transportation and marketing infrastructure in eastern Ohio.

As of December 31, 2018, MarkWest had a 56 percent legal ownership interest in MarkWest Utica EMG. MarkWest Utica EMG's inability to fund its planned activities without subordinated financial support qualify it as a VIE. Utica Operating is not deemed to be the primary beneficiary due to EMG Utica's voting rights on significant matters. We account for our ownership interest in MarkWest Utica EMG as an equity method investment. Our maximum exposure to loss as a result of our involvement with MarkWest Utica EMG includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in MarkWest Utica EMG at December 31, 2018 was $2.0 billion.

Ohio Gathering

Ohio Gathering Company, L.L.C. ("Ohio Gathering") is a subsidiary of MarkWest Utica EMG and is engaged in providing natural gas gathering services in the Utica Shale in eastern Ohio. Ohio Gathering is a joint venture between MarkWest Utica EMG and Summit Midstream Partners, LLC. As of December 31, 2018, we had a 34 percent indirect ownership interest in Ohio Gathering. As this entity is a subsidiary of MarkWest Utica EMG, which is accounted for as an equity method investment, MPLX reports its portion of Ohio Gathering's net assets as a component of its investment in MarkWest Utica EMG.

Sherwood Midstream

As described in Note 5, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream, to support the development of Antero Resources Corporation's Marcellus Shale acreage in West Virginia. As of December 31, 2018, MPLX had a 50 percent ownership interest in Sherwood Midstream. Sherwood Midstream's inability to fund its planned activities without additional subordinated financial support qualify it as a VIE. MPLX is not deemed to be the primary beneficiary, due to Antero Midstream's voting rights on significant matters. We account for our ownership interest in Sherwood Midstream using the equity method of accounting. Our maximum exposure to loss as a result of our involvement with Sherwood Midstream includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in Sherwood Midstream at December 31, 2018 was $366 million.

Ohio Fractionation

As described in Note 5, MPLX converted all of its ownership interests in Ohio Fractionation to Class A Interests and amended its LLC Agreement to create Class B-3 Interests, which were sold to Sherwood Midstream, providing it with the right to fractionation revenue and the obligation to pay expenses related to 20 mbpd of capacity in the Hopedale 3 fractionator. Ohio Fractionation's inability to fund its operations without additional subordinated financial support qualify it as a VIE. MPLX has been deemed to be the primary beneficiary of Ohio Fractionation because it has control over decisions that could significantly impact its financial performance, and as a result, consolidates Ohio Fractionation.

Sherwood Midstream Holdings

As described in Note 5, MPLX and Sherwood Midstream entered into a joint venture, Sherwood Midstream Holdings, for the purpose of owning, operating and maintaining all of the shared assets for the benefit of and use in the operation of the gas plants and other assets owned by Sherwood Midstream and the gas plants and deethanization facilities owned by MPLX. MPLX had an initial 79 percent direct ownership in Sherwood Midstream Holdings, in addition to an initial 10.5 percent indirect interest through its ownership in Sherwood Midstream. Sherwood Midstream Holdings' inability to fund its operations without additional subordinated financial support qualify it as a VIE. We account for our ownership interest in Sherwood Midstream Holdings using the equity method of accounting as Sherwood Midstream is considered to be the general partner and controls all decisions related to Sherwood Midstream Holdings. Our maximum exposure to loss as a result of our involvement with Sherwood Midstream Holdings includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in Sherwood Midstream Holdings at December 31, 2018 was $157 million.

Other Non-Consolidated VIEs

We have a 67 percent ownership interest in Andeavor Logistics Rio Pipeline LLC ("ALRP"), a recently constructed crude oil pipeline located in the Delaware and Midland basins in west Texas. We are not the primary beneficiary of ALRP because we jointly direct the activities of ALRP that most significantly impact its economic performance with the other minor shareholder. Our equity investment in ALRP at December 31, 2018 was $181 million.

We have a 78 percent ownership interest in Rendezvous Gas Services, LLC ("RGS"), which owns and operates the infrastructure that transports gas from certain fields to several re-delivery points in southwestern Wyoming, including natural gas processing facilities that are owned by us or a third party. We are not the primary beneficiary of RGS. Our equity investment in RGS at December 31, 2018 was $248 million.

ALRP and RGS are unconsolidated variable interest entities and we use the equity method of accounting with respect to our investments in each entity.

7. RELATED PARTY TRANSACTIONS

We believe that transactions with related parties were conducted on terms comparable to those with unaffiliated parties.

Transactions with related parties were as follows:

(In millions)	2018	2017	2016
Sales to related parties[(a)]	$ 754	$ 629	$ 62
Purchases from related parties[(b)]	610	570	509

(a) Sales to related parties consists primarily of sales of refined products to PFJ Southeast, an equity affiliate which owns and operates travel plazas primarily in the Southeast region of the United States.

(b) We obtain transportation services and purchase ethanol from certain of our equity affiliates, none of which is individually material.

8. INCOME PER COMMON SHARE

We compute basic earnings per share by dividing net income 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 per share using the two-class method. Diluted income per share assumes exercise of certain stock-based compensation awards, provided the effect is not anti-dilutive.

(In millions, except per share data)	2018	2017	2016
Basic earnings per share:			
Allocation of earnings:			
Net income attributable to MPC	$ 2,780	$ 3,432	$ 1,174
Income allocated to participating securities	1	2	1
Income available to common stockholders – basic	$ 2,779	$ 3,430	$ 1,173
Weighted average common shares outstanding	518	507	528
Basic earnings per share	$ 5.36	$ 6.76	$ 2.22
Diluted earnings per share:			
Allocation of earnings:			
Net income attributable to MPC	$ 2,780	$ 3,432	$ 1,174
Income allocated to participating securities	1	2	1
Income available to common stockholders – diluted	$ 2,779	$ 3,430	$ 1,173
Weighted average common shares outstanding	518	507	528
Effect of dilutive securities	8	5	2
Weighted average common shares, including dilutive effect	526	512	530
Diluted earnings per share	$ 5.28	$ 6.70	$ 2.21

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

(In millions)	2018	2017	2016
Shares issuable under stock-based compensation plans	—	1	3

9. EQUITY

On October 1, 2018, in connection with the Andeavor acquisition, we amended our certificate of incorporation to increase the number of authorized shares of MPC common stock from one billion to two billion, as approved by MPC stockholders at MPC's September 24, 2018 special meeting of stockholders.

As of December 31, 2018, we had $4.90 billion of remaining share repurchase authorizations from our board of directors. We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, 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 discontinued at any time.

Total share repurchases were as follows for the respective periods:

(In millions, except per share data)	2018	2017	2016
Number of shares repurchased	47	44	4
Cash paid for shares repurchased	$ 3,287	$ 2,372	$ 197
Average cost per share	$ 69.46	$ 53.85	$ 41.84

10. SEGMENT INFORMATION

We have three reportable segments: Refining & Marketing; Retail; 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 at our 16 refineries in the West Coast, Gulf Coast and Mid-Continent regions of the United States, purchases refined products and ethanol for resale and distributes refined products largely 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 our Retail business segment and to independent entrepreneurs who operate primarily Marathon® branded outlets.
- Retail – sells transportation fuels and convenience products in the retail market across the United States through company-owned and operated convenience stores, primarily under the Speedway brand, and 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 and ANDX, our sponsored master limited partnerships.

On October 1, 2018, we acquired Andeavor and its results are included in each of our segments from the date of the acquisition. Also, on February 1, 2018, we contributed certain refining logistics assets and fuels distribution services to MPLX. The results of these new businesses are reported in the Midstream segment prospectively from February 1, 2018, resulting in a net reduction of $874 million to Refining & Marketing segment results and a net increase to Midstream segment results of the same amount. No effect was given to prior periods as these entities were not considered businesses prior to February 1, 2018.

Segment income represents income from operations attributable to the reportable segments. Corporate administrative expenses, except for those attributable to MPLX and ANDX, and costs related to certain non-operating assets are not allocated to the reportable segments. In addition, certain items that affect comparability (as determined by the chief operating decision maker) are not allocated to the reportable segments. In the third quarter of 2018, we began reporting segment capital expenditures and investments excluding acquisitions in the current and comparative periods.

(In millions)	Refining & Marketing	Retail	Midstream	Total
Year Ended December 31, 2018				
Revenues:				
Third party	$ 68,939	$ 23,538	$ 3,273	$ 95,750
Intersegment	12,914	6	3,387	16,307
Related party	746	8	—	754
Segment revenues	$ 82,599	$ 23,552	$ 6,660	$ 112,811
Segment income from operations	$ 2,481	$ 1,028	$ 2,752	$ 6,261
Income from equity method investments[(b)]	15	74	274	363
Depreciation and amortization[(b)]	1,174	353	885	2,412
Capital expenditures and investments[(c)]	1,057	460	2,630	4,147

(In millions)	Refining & Marketing	Retail	Midstream	Total
Year Ended December 31, 2017				
Revenues:				
Third party	$ 52,761	$ 19,021	$ 2,322	$ 74,104
Intersegment[(a)]	11,309	4	1,443	12,756
Related party	621	8	—	629
Segment revenues	$ 64,691	$ 19,033	$ 3,765	$ 87,489
Segment income from operations	$ 2,321	$ 729	$ 1,339	$ 4,389
Income from equity method investments[(b)]	17	69	197	283
Depreciation and amortization[(b)]	1,082	275	699	2,056
Capital expenditures and investments[(c)]	832	381	1,755	2,968

(In millions)	Refining & Marketing	Retail	Midstream	Total
Year Ended December 31, 2016				
Revenues:				
Third party	$ 43,167	$ 18,282	$ 1,828	$ 63,277
Intersegment[(a)]	10,589	3	1,262	11,854
Related party	61	1	—	62
Segment revenues	$ 53,817	$ 18,286	$ 3,090	$ 75,193
Segment income from operations[(d)]	$ 1,357	$ 733	$ 1,048	$ 3,138
Income from equity method investments[(b)]	24	5	142	171
Depreciation and amortization[(b)]	1,063	273	605	1,941
Capital expenditures and investments[(c)]	1,054	303	1,558	2,915

(a) Management believes intersegment transactions were conducted under terms comparable to those with unaffiliated parties.

(b) Differences between segment totals and MPC totals represent amounts related to unallocated items and are included in "Items not allocated to segments" in the reconciliation below.

(c) Capital expenditures include changes in capital accruals and investments in affiliates.

(e) In 2016, the Refining & Marketing and Retail segments include an inventory LCM benefit of $345 million and $25 million, respectively.

The following reconciles segment income from operations to income before income taxes as reported in the consolidated statements of income:

(In millions)	2018	2017	2016
Segment income from operations	$ 6,261	$ 4,389	$ 3,138
Items not allocated to segments:			
Corporate and other unallocated items[(a)]	(502)	(365)	(266)
Transaction-related costs	(197)	—	—
Litigation	—	(29)	—
Impairments[(b)]	9	23	(486)
Income from operations	5,571	4,018	2,386
Net interest and other financial costs	1,003	674	564
Income before income taxes	$ 4,568	$ 3,344	$ 1,822

(a) Corporate and other unallocated items consists primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX and ANDX, which are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Retail segments.

(b) 2018 and 2017 includes MPC's share of gains from the the sale of assets remaining from the canceled Sandpiper pipeline project. 2016 includes impairments of goodwill and equity method investments. See Note 17.

The following reconciles segment capital expenditures and investments to total capital expenditures:

(In millions)	2018	2017	2016
Segment capital expenditures and investments	$ 4,147	$ 2,968	$ 2,915
Less investments in equity method investees	409	305	288
Plus items not allocated to segments:			
Corporate	77	83	81
Capitalized interest	80	55	63
Total capital expenditures[(a)]	$ 3,895	$ 2,801	$ 2,771

(a) Capital expenditures include changes in capital accruals. See Note 20 for a reconciliation of total capital expenditures to additions to property, plant and equipment as reported in the consolidated statements of cash flows.

Revenues by product line were:

(In millions)	2018	2017	2016
Refined products	$ 83,888	$ 63,846	$ 54,450
Merchandise	5,332	5,174	5,297
Crude oil and refinery feedstocks	4,143	3,403	2,038
Midstream services, transportation and other	2,387	1,681	1,492
Sales and other operating revenues[(a)]	$ 95,750	$ 74,104	$ 63,277

(a) The 2018 period reflects an election to present certain taxes on a net basis concurrent with our adoption of ASC 606.

No single customer accounted for more than 10 percent of annual revenues for the years ended December 31, 2018, 2017 and 2016.

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.

11. NET INTEREST AND OTHER FINANCIAL COSTS

Net interest and other financial costs was:

(In millions)	2018	2017	2016
Interest income	$ (87)	$ (27)	$ (6)
Interest expense	1,026	688	602
Interest capitalized	(80)	(63)	(64)
Pension and other postretirement non-service costs[(a)]	53	49	8
Loss on extinguishment of debt	64	—	—
Other financial costs	27	27	24
Net interest and other financial costs	$ 1,003	$ 674	$ 564

(a) See Note 22.

12. INCOME TAXES

The TCJA was signed into law on December 22, 2017, providing several significant changes to U.S. tax law, including a reduction in the corporate tax rate from 35 percent to 21 percent effective for MPC in 2018. As a result of the rate change, MPC was required to calculate the effect of the TCJA on its deferred tax balances as of the enactment date, which was to reduce net deferred tax liabilities by $1.5 billion in 2017.

Income tax provisions (benefits) were:

	2018			2017			2016		
(In millions)	Current	Deferred	Total	Current	Deferred	Total	Current	Deferred	Total
Federal	$ 715	$ 2	$ 717	$ 681	$ (1,270)	$ (589)	$ 189	$ 336	$ 525
State and local	178	61	239	98	33	131	27	57	84
Foreign	22	(16)	6	(6)	4	(2)	(1)	1	—
Total	$ 915	$ 47	$ 962	$ 773	$ (1,233)	$ (460)	$ 215	$ 394	$ 609

A reconciliation of the federal statutory income tax rate applied to income before income taxes to the provision for income taxes follows:

	2018	2017	2016
Statutory rate applied to income before income taxes	21 %	35 %	35 %
State and local income taxes, net of federal income tax effects	4	2	3
Domestic manufacturing deduction	—	(1)	(1)
Noncontrolling interests	(4)	(4)	(1)
Biodiesel excise tax credit	—	—	(1)
TCJA legislation	—	(45)	—
Other	—	(1)	(2)
Provision for income taxes	21 %	(14)%	33 %

Deferred tax assets and liabilities resulted from the following:

	December 31,	
(In millions)	2018	2017
Deferred tax assets:		
Employee benefits	$ 660	$ 348
Environmental remediation	111	16
Debt financing	39	—
Net operating loss carryforwards	17	12
Foreign currency	28	13
Tax credit carryforwards	21	—
Other	88	31
Total deferred tax assets	964	420
Deferred tax liabilities:		
Property, plant and equipment	2,830	1,603
Inventories	678	473
Investments in subsidiaries and affiliates	2,130	912
Intangibles	97	70
Other	64	3
Total deferred tax liabilities	5,799	3,061
Net deferred tax liabilities	$ 4,835	$ 2,641

The increase in net deferred tax liabilities is primarily related to the revaluation of MPC’s legacy deferred tax liabilities and the recognition of net deferred tax liabilities both as a result of the Andeavor acquisition.

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

	December 31,	
(In millions)	2018	2017
Assets:		
Other noncurrent assets	$ 29	$ 13
Liabilities:		
Deferred income taxes	4,864	2,654
Net deferred tax liabilities	$ 4,835	$ 2,641

Tax Carryforwards

At December 31, 2018 and 2017, federal operating loss carryforwards were $7 million and $5 million, respectively, which expire in 2022 through 2037. As of December 31, 2018 and 2017, state and local operating loss carryforwards were $10 million and $8 million, respectively, which expire in 2017 through 2037.

Valuation Allowances

As of December 31, 2018 and 2017, $10 million and $11 million of valuation allowances have been recorded against foreign tax credits and state net operating losses due to the expectation that these deferred tax assets are not likely to be realized.

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. While Andeavor also undergoes continual IRS examination, it did not participate in the CAP for tax periods prior to the acquisition of Andeavor.

MPC's IRS audits have been completed through the 2009 tax year. Andeavor and its subsidiaries' IRS audits have been completed through the 2008 tax year. We believe adequate provision has been established for potential tax in periods not closed to examination. 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, 2018, our income tax returns remain subject to examination in the following major tax jurisdictions for the tax years indicated:

United States Federal	2009	-	2017
States	2006	-	2017

The following table summarizes the activity in unrecognized tax benefits:

(In millions)	2018	2017	2016
January 1 balance	$ 19	$ 7	$ 12
Additions for tax positions of prior years	—	13	6
Reductions for tax positions of prior years	(5)	—	(10)
Settlements	—	(1)	(1)
Statute of limitations	(12)	—	—
Acquired from Andeavor	209	—	—
December 31 balance	$ 211	$ 19	$ 7

If the unrecognized tax benefits as of December 31, 2018 were recognized, $201 million would affect our effective income tax rate. There were $15 million of uncertain tax positions as of December 31, 2018 for which it is reasonably possible that the amount of unrecognized tax benefits would significantly decrease during the next twelve months. The unrecognized tax benefits acquired from Andeavor arise primarily from a 2009-2010 refund claim related to the federal income tax effects of receiving an excise tax credit on ethanol blending for those years.

Prior to its spinoff on June 30, 2011, Marathon Petroleum Corporation was included in the Marathon Oil Corporation ("Marathon Oil") U.S. federal income tax returns for all applicable years. During the third quarter of 2017, Marathon Oil received a notice of Final Partnership Administrative Adjustment ("FPAA") from the IRS for taxable year 2010, relating to certain partnership transactions. Marathon Oil filed a U.S. Tax Court petition disputing these adjustments during the fourth quarter of 2017. We received an FPAA for taxable years 2011-2014 for items resulting from the Marathon Oil IRS dispute discussed above. We filed a U.S. Tax Court petition in the fourth quarter of 2017 for tax years 2011-2014 to dispute these corollary adjustments. We continue to believe that the issue in dispute is more likely than not to be fully sustained and therefore, no liability has been accrued for this matter.

Pursuant to our tax sharing agreement with Marathon Oil, the unrecognized tax benefits related to pre-spinoff operations for which Marathon Oil was the taxpayer remain the responsibility of Marathon Oil and we have indemnified Marathon Oil accordingly. See Note 25 for indemnification information.

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, $3 million and ($5) million in 2018, 2017 and 2016, respectively. As of December 31, 2018 and 2017, $18 million and $17 million of interest and penalties were accrued related to income taxes.

13. INVENTORIES

	December 31,	
(In millions)	2018	2017
Crude oil and refinery feedstocks	$ 3,655	$ 2,056
Refined products	5,234	2,839
Materials and supplies	720	494
Merchandise	228	161
Total	$ 9,837	$ 5,550

The LIFO method accounted for 92 percent and 90 percent of total inventory value at December 31, 2018 and 2017, respectively. There was no excess of replacement or current cost over our stated LIFO cost as of December 31, 2018. Current acquisition costs of inventories were estimated to exceed the LIFO inventory value at December 31, 2017 by $1.21 billion.

During 2017, we recorded LIFO liquidations caused primarily by permanently decreased levels in our crude oil inventory. Cost of revenues increased and income from operations decreased by $7 million for the year ended December 31, 2017 due to LIFO liquidations. There were no material liquidations of LIFO inventories in 2018 and 2016.

14. EQUITY METHOD INVESTMENTS

(Dollars in millions)	Ownership as of December 31, 2018	Carrying value at December 31, 2018	2017
R&M			
Watson Cogeneration Company	51%	$ 84	$ —
Other		121	104
R&M Total		$ 205	$ 104
Retail			
PFJ Southeast LLC	29%	$ 341	$ 328
Retail Total		$ 341	$ 328
Midstream			
Andeavor Logistics Rio Pipeline LLC	67%	$ 181	$ —
Centrahoma Processing LLC	40%	160	121
Crowley Coastal Partners, LLC	50%	190	188
Illinois Extension Pipeline Company, L.L.C	35%	275	284
LOOP LLC	51%	282	282
MarEn Bakken Company LLC	25%	498	520
MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C.	67%	236	164
MarkWest Utica EMG	56%	2,039	2,139
Minnesota Pipe Line Company, LLC	17%	197	—
Rendezvous Gas Services, L.L.C.	78%	248	—
Sherwood Midstream Holdings LLC[(a)]	60%	157	165
Sherwood Midstream LLC	50%	366	236
Other		523	256
Midstream Total		$ 5,352	$ 4,355
Total		$ 5,898	$ 4,787

(a) Excludes Sherwood Midstream LLC's investment in Sherwood Midstream Holdings LLC.

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

(In millions)	2018	2017	2016
Income statement data:			
Revenues and other income	$ 7,726	$ 6,235	$ 2,421
Income (loss) from operations	1,375	1,075	(116)
Net income (loss)	1,242	922	(250)
Balance sheet data – December 31:			
Current assets	$ 1,443	$ 860	
Noncurrent assets	12,408	10,854	
Current liabilities	1,857	547	
Noncurrent liabilities	1,788	1,714	

As of December 31, 2018, the carrying value of our equity method investments was $1.59 billion higher than the underlying net assets of investees. This basis difference is being amortized or accreted into net income over the remaining estimated useful lives of the underlying net assets, except for $721 million of excess related to goodwill and non-depreciable assets.

Dividends and partnership distributions received from equity method investees (excluding distributions that represented a return of capital previously contributed) were $519 million, $391 million and $317 million in 2018, 2017 and 2016.

15. PROPERTY, PLANT AND EQUIPMENT

(In millions)	Estimated Useful Lives	December 31, 2018	December 31, 2017
Refining & Marketing	4 - 30 years	$ 27,590	$ 19,490
Retail	4 - 25 years	6,637	5,358
Midstream	3 - 51 years	25,692	14,898
Corporate and Other	4 - 40 years	1,294	792
Total		61,213	40,538
Less accumulated depreciation		16,155	14,095
Property, plant and equipment, net		$ 45,058	$ 26,443

Property, plant and equipment includes gross assets acquired under capital leases of $786 million and $602 million at December 31, 2018 and 2017, respectively, with related amounts in accumulated depreciation of $202 million and $248 million at December 31, 2018 and 2017. Property, plant and equipment includes construction in progress of $3.49 billion and $2.20 billion at December 31, 2018 and 2017, respectively, which primarily relates to capital projects at our refineries and midstream facilities.

16. GOODWILL AND INTANGIBLES

Goodwill

Goodwill is tested for impairment on an annual basis and when events or changes in circumstances indicate the fair value of a reporting unit with goodwill has been reduced below the carrying value of the net assets of the reporting unit. In 2018 and 2017, our annual testing did not indicate any impairment of goodwill.

The changes in the carrying amount of goodwill for 2017 and 2018 were as follows:

(In millions)	Refining & Marketing	Retail	Midstream	Total
Balance at January 1, 2017	$ 519	$ 792	$ 2,276	$ 3,587
Disposition	—	(1)	—	(1)
Balance at December 31, 2017	$ 519	$ 791	$ 2,276	$ 3,586
Acquisitions	4,717	4,050	7,831	16,598
Transfer of assets related to dropdowns	(216)	—	216	—
Balance at December 31, 2018	$ 5,020	$ 4,841	$ 10,323	$ 20,184

The 2018 increase in goodwill resulted mainly from the acquisition of Andeavor. The goodwill represents the value expected to be created by optimization of crude supply, a nationwide retail and marketing platform, diversification of our refining and midstream footprints and optimization of information systems and business processes. As discussed in Note 5, this goodwill is based on our preliminary determination of the fair value of assets acquired and liabilities assumed in the Andeavor acquisition. We will complete a final determination of the fair value of certain assets and liabilities and an allocation of the resulting goodwill to our reporting units within one year from the acquisition.

Intangible Assets

Our finite-lived intangible assets as of December 31, 2018 and 2017 are as shown below. The increases in 2018 reflect preliminary estimates for customer contracts and relationships as well as brand rights and tradenames acquired in the the Andeavor acquisition.

	December 31, 2018			December 31, 2017		
(In millions)	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Customer contracts and relationships	$ 3,184	$ 261	$ 2,923	$ 654	$ 139	$ 515
Brand rights and tradenames	208	33	175	25	24	1
Royalty agreements	129	70	59	129	63	66
Other	190	33	157	84	35	49
Total	$ 3,711	$ 397	$ 3,314	$ 892	$ 261	$ 631

At December 31, 2018 and 2017, we had indefinite-lived intangible assets of $94 million and $95 million, respectively, which are primarily emission allowance credits and trademarks.

Amortization expense for 2018 and 2017 was $134 million and $52 million, respectively. Estimated future amortization expense related to the intangible assets at December 31, 2018 is as follows:

(In millions)	
2019	$ 387
2020	385
2021	379
2022	378
2023	361

17. 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, 2018 and 2017 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, 2018					
	Fair Value Hierarchy					
(In millions)	Level 1	Level 2	Level 3	Netting and Collateral[(a)]	Net Carrying Value on Balance Sheet[(b)]	Collateral Pledged Not Offset
Commodity derivative instruments, assets	$ 370	$ 31	$ —	$ (323)	$ 78	$ 2
Total assets at fair value	$ 370	$ 31	$ —	$ (323)	$ 78	$ 2
Commodity derivative instruments, liabilities	$ 255	$ 37	$ —	$ (284)	$ 8	$ —
Embedded derivatives in commodity contracts	—	—	61	—	61	—
Total liabilities at fair value	$ 255	$ 37	$ 61	$ (284)	$ 69	$ —

(In millions)	December 31, 2017 Fair Value Hierarchy Level 1	Level 2	Level 3	Netting and Collateral[(a)]	Net Carrying Value on Balance Sheet[(b)]	Collateral Pledged Not Offset
Commodity derivative instruments, assets	$ 127	$ —	$ —	$ (118)	$ 9	$ 8
Other assets	3	—	—	N/A	3	—
Total assets at fair value	$ 130	$ —	$ —	$ (118)	$ 12	$ 8
Commodity derivative instruments, liabilities	$ 126	$ —	$ 2	$ (126)	$ 2	$ —
Embedded derivatives in commodity contracts	—	—	64	—	64	—
Total liabilities at fair value	$ 126	$ —	$ 66	$ (126)	$ 66	$ —

(a) Represents the impact of netting assets, liabilities and cash collateral when a legal right of offset exists. As of December 31, 2018, cash collateral of $52 million was netted with mark-to-market derivative assets and $13 million was netted with mark-to-market liabilities. As of December 31, 2017, cash collateral of $8 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.

Commodity derivatives in Level 1 are 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 in the fair value hierarchy.

Level 2 instruments are valued based on quoted prices for similar assets and liabilities in active markets, and inputs other than quoted prices, such as liquidity, that are observable for the asset or liability. Commodity derivatives in Level 2 are OTC contracts, which are valued using market quotations from independent price reporting agencies, third-party brokers and commodity exchange price curves that are corroborated with market data.

Level 3 instruments are OTC NGL contracts and embedded derivatives in commodity contracts. The embedded derivative liability relates to a natural gas purchase agreement embedded in a keep-whole processing agreement. The fair value calculation for these Level 3 instruments at December 31, 2018 used significant unobservable inputs including: (1) NGL prices interpolated and extrapolated due to inactive markets ranging from $0.58 to $1.01 per gallon and (2) the probability of renewal of 90 percent for the first five-year term and 80 percent for the second five-year term of the gas purchase agreement and the related keep-whole processing agreement. For these contracts, increases in forward NGL prices result in a decrease in the fair value of the derivative assets and an increase in the fair value of the derivative liabilities. Increases or decreases in the fractionation spread result in an increase or decrease in the fair value of the embedded derivative liability. An increase in the probability of renewal would result in an increase in the fair value of the related embedded derivative liability.

The following is a reconciliation of the net beginning and ending balances recorded for net liabilities classified as Level 3 in the fair value hierarchy.

(In millions)	2018	2017
Beginning balance	$ 66	$ 190
Contingent consideration payment	—	(131)
Unrealized and realized losses included in net income	3	25
Settlements of derivative instruments	(8)	(18)
Ending balance	$ 61	$ 66
The amount of total losses for the period included in earnings attributable to the change in unrealized losses relating to assets still held at the end of period:		
Derivative instruments	$ 8	$ 8
Contingent consideration agreement	—	1
Total	$ 8	$ 9

See Note 18 for the income statement impacts of our derivative instruments.

Fair Values – Nonrecurring

During the third quarter of 2016, Enbridge Energy Partners announced that its affiliate, North Dakota Pipeline, would withdraw certain pending regulatory applications for the Sandpiper pipeline project and that the project would be deferred indefinitely. These decisions were considered to indicate an impairment of the costs capitalized to date on the project. As the operator of North Dakota Pipeline and the entity responsible for maintaining its financial records, Enbridge completed a fixed asset impairment analysis as of August 31, 2016, in accordance with ASC Topic 360. Based on the estimated liquidation value of the fixed assets, an impairment charge was recorded by North Dakota Pipeline. Based on our 37.5 percent ownership of North Dakota Pipeline, we recognized approximately $267 million of this charge in the third quarter of 2016 through income (loss) from equity method investments on the accompanying consolidated statements of income, which impaired virtually all of our $301 million investment in the project. Also, in accordance with ASC Topic 323, we completed an assessment to determine any additional equity method impairment charge to be recorded on our consolidated financial statements resulting from an other-than-temporary impairment. The result of this analysis indicated no additional charge was required to be recorded.

The fixed assets of North Dakota Pipeline related to the Sandpiper pipeline project consist primarily of project management and engineering costs, pipe, valves, motors and other equipment, land and easements. The fair value of fixed assets was estimated based on a market approach using the estimated price that would be received to sell pipe, land and other related equipment in its current condition, considering the current market conditions for sale of these assets and length of disposal period. The valuation considered a range of potential selling prices from various alternatives that could be used to dispose of these assets. As such, the fair value of the North Dakota Pipeline equity method investment and its underlying assets represents a Level 3 measurement. As a result, actual results may differ from the estimates and assumptions made for purposes of this impairment analysis. North Dakota Pipeline is in the process of disposing of these assets.

During the second quarter of 2016, forecasts for Ohio Condensate, an equity method investment, were reduced in line with updated forecasts for customer requirements. As the operator of that entity responsible for maintaining its financial records, we completed a fixed asset impairment analysis as of June 30, 2016, in accordance with ASC Topic 360, to determine the potential fixed asset impairment charge. The resulting fixed asset impairment charge recorded within Ohio Condensate’s financial statements was $96 million. Based on our 60 percent ownership of Ohio Condensate, approximately $58 million was recorded in the second quarter of 2016 in income (loss) from equity method investments on the accompanying consolidated statements of income.

Our investment in Ohio Condensate, which was established at fair value in connection with the MarkWest Merger, exceeded its proportionate share of the underlying net assets. Therefore, in conjunction with the ASC Topic 360 impairment analysis, we completed an equity method impairment analysis in accordance with ASC Topic 323 to determine the potential additional equity method impairment charge to be recorded on our consolidated financial statements resulting from an other-than-temporary impairment. As a result, an additional impairment charge of approximately $31 million was recorded in the second quarter of 2016 in income (loss) from equity method investments on the accompanying consolidated statements of income, which eliminated the basis differential established in connection with the MarkWest Merger.

The fair value of Ohio Condensate and its underlying assets was determined based upon applying the discounted cash flow method, which is an income approach, and the guideline public company method, which is a market 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 results using a probability weighted average set of cash flow forecasts and a discount rate of 11.2 percent. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As such, the fair value of the Ohio Condensate equity method investment and its underlying assets represents a Level 3 measurement. As a result, actual results may differ from the estimates and assumptions made for purposes of this impairment analysis.

During the first quarter of 2016, MPLX, our consolidated subsidiary, determined that an interim impairment analysis of the goodwill recorded in connection with the MarkWest Merger was necessary based on consideration of a number of first quarter events and circumstances, including i) continued deterioration of near-term commodity prices as well as longer term pricing trends, ii) recent guidance on reductions to forecasted capital spending, the slowing of drilling activity and the resulting reduced production growth forecasts released or communicated by MPLX’s producer customers and iii) increases in the cost of capital. The combination of these factors was considered to be a triggering event requiring an interim impairment test. Based on the first step of the interim goodwill impairment analysis, the fair value for three of the reporting units to which goodwill was assigned in connection with the MarkWest Merger was less than their respective carrying value. In step two of the impairment analysis, the implied fair values of the goodwill were compared to the carrying values within those reporting units. Based on this assessment, it was determined that goodwill was impaired in two of the reporting units. Accordingly, MPLX recorded an impairment charge of approximately $129 million in the first quarter of 2016. In the second quarter of 2016, MPLX completed its purchase price allocation, which resulted in an additional $1 million of impairment expense that would have been recorded in the first quarter of 2016 had the purchase price allocation been completed as of that date. This adjustment to the impairment expense was the result of completing an evaluation of the deferred tax liabilities associated with the MarkWest Merger and their impact on the resulting goodwill that was recognized.

The fair value of the reporting units for the 2016 interim goodwill impairment analysis was determined based on applying the discounted cash flow method, which is an income approach, and the guideline public company method, which is a market approach. The discounted cash flow fair value estimate was based on known or knowable information at the interim measurement date. The significant assumptions that were used to develop the estimates of the fair values under the discounted cash flow method include management's best estimates of the expected future results and discount rates, which ranged from 10.5 percent to 11.5 percent. 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 2016 interim goodwill impairment test will prove to be an accurate prediction of the future.

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 fixed rate 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 $27.0 billion and $26.5 billion at December 31, 2018, respectively, and approximately $12.6 billion and $13.9 billion at December 31, 2017, respectively. These carrying and fair values of our debt exclude the unamortized issuance costs which are netted against our total debt.

18. DERIVATIVES

For further information regarding the fair value measurement of derivative instruments, including any effect of master netting agreements or collateral, see Note 17. 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, 2018 and 2017 and the line items in the 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.

(In millions)	December 31, 2018	
Balance Sheet Location	Asset	Liability
Commodity derivatives		
Other current assets	$ 400	$ 283
Other current liabilities[(a)]	1	16
Deferred credits and other liabilities[(a)]	—	54

(In millions)	December 31, 2017	
Balance Sheet Location	Asset	Liability
Commodity derivatives		
Other current assets	$ 127	$ 126
Other current liabilities[(a)]	—	14
Deferred credits and other liabilities[(a)]	—	52

(a) Includes embedded derivatives.

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) sale of NGLs and (6) the purchase of natural gas.

The table below summarizes open commodity derivative contracts for crude oil, refined products and blending products as of December 31, 2018.

(Units in thousands of barrels)	Percentage of contracts that expire next quarter	Position	
		Long	Short
Exchange-traded[(a)]			
Crude oil	71.5%	40,257	44,709
Refined products	75.9%	10,210	11,149
Blending products	70.3%	5,194	7,356
OTC			
Crude oil	—%	880	—
Blending products	24.1%	2,480	2,480

(a) Included in exchange-traded are spread contracts in thousands of barrels: Crude oil - 7,470 long and 6,800 short; Refined products - 450 long and 450 short; Blending products - 2,678 long and 2,767 short

The following table summarizes the effect of all commodity derivative instruments in our consolidated statements of income:

(In millions)	Gain (Loss)		
Income Statement Location	2018	2017	2016
Sales and other operating revenues	$ 13	$ 5	$ (13)
Cost of revenues	(59)	(26)	(167)
Total	$ (46)	$ (21)	$ (180)

19. DEBT

Our outstanding borrowings at December 31, 2018 and 2017 consisted of the following:

(In millions)	December 31,	
	2018	2017
Marathon Petroleum Corporation:		
Commercial paper	$ —	$ —
364-day bank revolving credit facility due September 2019	—	—
Trade receivables securitization facility due July 2019	—	—
Bank revolving credit facility due October 2023	—	—
Senior notes, 2.700% due December 2018	—	600
Senior notes, 3.400% due December 2020	650	650
Senior notes, 5.125% due March 2021	1,000	1,000
Senior notes, 5.375% due October 2022	337	—
Senior notes, 4.750% due December 2023	614	—
Senior notes, 5.125% due April 2024	241	—
Senior notes, 3.625%, due September 2024	750	750
Senior notes, 5.125% due December 2026	719	—
Senior notes, 3.800% due April 2028	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	—
Andeavor senior notes, 3.800% - 5.375% due 2022 - 2048	469	—
Senior notes, 5.000%, due September 2054	400	400
Capital lease obligations due 2019-2033	629	356

(In millions)	December 31, 2018	December 31, 2017
Notes payable	11	—
MPLX LP:		
MPLX bank revolving credit facility due 2022	—	505
MPLX senior notes, 5.500% due February 2023	—	710
MPLX senior notes, 3.375% due March 2023	500	—
MPLX senior notes, 4.500% due July 2023	989	989
MPLX senior notes, 4.875% due December 2024	1,149	1,149
MPLX senior notes, 4.000% due February 2025	500	500
MPLX senior notes, 4.875% due June 2025	1,189	1,189
MarkWest senior notes, 4.500% - 5.500% due 2023 - 2025	23	63
MPLX senior notes, 4.125% due March 2027	1,250	1,250
MPLX senior notes, 4.000% due March 2028	1,250	—
MPLX senior notes, 4.800% due February 2029	750	—
MPLX senior notes, 4.500% due April 2038	1,750	—
MPLX senior notes, 5.200% due March 2047	1,000	1,000
MPLX senior notes, 4.700% due April 2048	1,500	—
MPLX senior notes, 5.500% due February 2049	1,500	—
MPLX senior notes, 4.900% due April 2058	500	—
MPLX capital lease obligations due 2020	6	7
ANDX LP:		
ANDX revolving and dropdown credit facilities due 2021	1,245	—
ANDX senior notes, 5.500% due October 2019	500	—
ANDX senior notes, 6.250% due October 2022	300	—
ANDX senior notes, 3.500% due December 2022	500	—
ANDX senior notes, 6.375% due May 2024	450	—
ANDX senior notes, 5.250% due January 2025	750	—
ANDX senior notes, 4.250% due December 2027	750	—
ANDX senior notes, 5.200% due December 2047	500	—
ANDX capital lease obligations	15	—
Total	27,980	13,418
Unamortized debt issuance costs	(128)	(59)
Unamortized (discount) premium, net	(328)	(413)
Amounts due within one year	(544)	(624)
Total long-term debt due after one year	$ 26,980	$ 12,322

Principal maturities for our debt obligations and capital lease obligations as of December 31, 2018 for the next five years were as follows:

(In millions)	
2019	$ 544
2020	695
2021	2,296
2022	1,320
2023	2,403

Commercial Paper

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of $2 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. During 2018, we had no borrowings or repayments under the commercial paper program. At December 31, 2018, we had no amounts outstanding under the commercial paper program.

MPC Revolving Credit Agreements

On August 28, 2018, we entered into credit agreements with a syndicate of lenders to replace MPC's previous five-year $2.5 billion bank revolving credit facility due in 2022 and our previous 364-day $1 billion bank revolving agreement that expired in July 2018. The new credit agreements, which became effective October 1, 2018 in connection with the Andeavor acquisition, provide for a $5 billion five-year revolving credit agreement that expires in 2023 ("new MPC five-year credit agreement") and a $1 billion 364-day revolving credit agreement that expires in 2019 ("new MPC 364-day credit agreement" and together with the new MPC five-year credit agreement, the "new MPC credit agreements").

MPC has an option under the new MPC five-year credit agreement to increase the aggregate commitments by up to an additional $1 billion, subject to, among other conditions, the consent of the lenders whose commitments would be increased. In addition, MPC may request up to two one-year extensions of the maturity date of the new MPC five-year credit agreement subject to, among other conditions, the consent of lenders holding a majority of the commitments, provided that the commitments of any non-consenting lenders will terminate on the then-effective maturity date. The new MPC five-year 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 billion upon receipt of additional letter of credit issuing commitments).

Borrowings under the MPC credit agreements bear interest, at our election, at either the Adjusted LIBO Rate or the Alternate Base Rate (both as defined in the new MPC credit agreements), plus an applicable margin. We are charged various fees and expenses under the MPC credit agreements, including administrative agent fees, commitment fees on the unused portion of the commitments and fees related to issued and outstanding letters of credit. The applicable margin to the benchmark interest rates and the commitment fees payable under the MPC credit agreements fluctuate based on changes, if any, to our credit ratings.

The MPC credit agreements contain 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 agreements) 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, 2018, we were in compliance with the covenants contained in the MPC credit agreements.

There were no borrowings and $32 million of letters of credit outstanding at December 31, 2018.

Trade Receivables Securitization Facility

On December 18, 2013, we entered into a trade receivables securitization facility ("trade receivables facility") with a group of committed purchasers and letter of credit issuers evidenced by a receivables purchase agreement and receivables sales agreement. On July 20, 2016, we amended our trade receivables securitization facility to, among other things, reduce the capacity from $1 billion to $750 million and to extend the maturity date to July 19, 2019. The reduction in capacity reflected the lower refined product price environment.

The trade receivables facility consists of one of our wholly-owned subsidiaries, Marathon Petroleum Company LP ("MPC LP"), selling or contributing on an on-going basis all of its trade receivables (including trade receivables acquired from Marathon Petroleum Trading Canada LLC, a wholly-owned subsidiary of MPC LP), 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 LLC ("TRC"), in exchange for a combination of cash, equity and/or a subordinated note issued by TRC to MPC LP. TRC, in turn, has the ability to sell undivided ownership interests in qualifying trade receivables, together with all related security and interests in the proceeds thereof, without recourse, to the purchasing group in exchange for cash proceeds. The trade receivables facility also provides for the issuance of letters of credit up to $750 million, provided that the aggregate credit exposure of the purchasing group, including outstanding letters of credit, may not exceed the lesser of $750 million or the balance of qualifying trade receivables at any one time.

To the extent that TRC retains an ownership interest in the receivables it has purchased or received from MPC LP, 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 purchasing group to secure its obligations under the Receivables Purchase Agreement.

Proceeds from the sale of undivided percentage ownership interests in qualifying receivables under the trade receivables facility are reflected as debt on our consolidated balance sheet. We remain responsible for servicing the receivables sold to the purchasing group. 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 receivables purchase agreement and receivables sale agreement 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 qualify for sale by TRC pursuant to the trade receivables facility. In addition, further purchases of qualified trade receivables under the trade receivables facility are subject to termination, and TRC may be subject to default fees, upon the occurrence of certain amortization events that are included in the receivables purchase agreement, all of which we consider to be usual and customary for arrangements of this type. As of December 31, 2018, we were in compliance with the covenants contained in the receivables purchase agreement and receivables sale agreement.

There were no borrowings or letters of credit outstanding under the trade receivables facility as of December 31, 2018. As of December 31, 2018, qualified trade receivables supported borrowings and letter of credit issuances of $750 million.

MPC Senior Notes

As a result of the completion of the Andeavor acquisition, we assumed an aggregate principal amount of $3.374 billion senior notes issued by Andeavor. On October 2, 2018, approximately $2.905 billion aggregate principal amount of Andeavor's outstanding senior notes were exchanged for new unsecured senior notes issued by MPC having the same maturity and interest rates as the Andeavor senior notes and cash in an exchange offer and consent solicitation undertaken by MPC and Andeavor.

The new MPC senior notes consist of approximately $337 million aggregate principal amount of 5.375 percent senior notes due October 1, 2022, approximately $614 million aggregate principal amount of 4.750 percent senior notes due December 15, 2023, approximately $241 million aggregate principal amount of 5.125 percent senior notes due April 1, 2024, approximately $719 million aggregate principal amount of 5.125 percent senior notes due December 15, 2026, approximately $496 million aggregate principal amount of 3.800 percent senior notes due April 1, 2028 and approximately $498 million aggregate principal amount of 4.500 percent senior notes due April 1, 2048.

After giving effect to the exchange offer and consent solicitation referred to above, as of December 31, 2018, Andeavor had outstanding approximately $138 million aggregate principal amount of 5.375 percent senior notes due October 1, 2022, approximately $236 million aggregate principal amount of 4.750 percent senior notes due December 15, 2023, approximately $59 million aggregate principal amount of 5.125 percent senior notes due April 1, 2024, approximately $30 million aggregate principal amount of 5.125 percent senior notes due December 15, 2026, approximately $4 million aggregate principal amount of 3.800 percent senior notes due April 1, 2028 and approximately $2 million aggregate principal amount of 4.500 percent senior notes due April 1, 2048.

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, MPLX and ANDX. 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.

On March 15, 2018, we redeemed all of the $600 million outstanding aggregate principal amount of our 2.700 percent senior notes due on December 14, 2018. The 2018 senior notes were redeemed at a price equal to par plus a make whole premium, plus accrued and unpaid interest. The make whole premium of $2.5 million was calculated based on the market yield of the applicable treasury issue as of the redemption date as determined in accordance with the indenture governing the 2018 senior notes.

MPLX Credit Agreement

On July 21, 2017, MPLX entered into a credit agreement with a syndicate of lenders to replace MPLX's previous $2 billion five-year bank revolving credit facility with a $2.25 billion five-year bank revolving credit facility that expires in July 2022 ("MPLX credit agreement").

The MPLX credit agreement includes letter of credit issuing capacity of up to approximately $222 million and swingline loan capacity of up to $100 million. The revolving borrowing capacity may be increased by up to an additional $500 million, subject to certain conditions, including the consent of the lenders whose commitments would increase.

Borrowings under the MPLX credit agreement bear interest, at MPLX's election, at the Adjusted LIBO Rate 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, 2018, MPLX was in compliance with the covenants contained in the MPLX credit agreement.

During 2018, MPLX borrowed $1.410 billion under the bank revolving credit facility, at an average interest rate of 3.464 percent, per annum, and repaid $1.915 billion of these borrowings. As of December 31, 2018, MPLX had no outstanding borrowings and $3 million of letters of credit outstanding under the bank revolving credit facility, resulting in total unused loan availability of $2.25 billion.

MPLX Term Loan

On January 2, 2018, MPLX entered into a term loan agreement with a syndicate of lenders providing for a $4.1 billion, 364-day term loan facility. MPLX drew the entire amount of the term loan facility in a single borrowing to fund the cash portion of the consideration for the February 1, 2018 dropdown. On February 8, 2018, MPLX used $4.1 billion of the net proceeds from the issuance of MPLX senior notes to repay the 364-day term-loan facility.

MPLX Senior Notes

On November 15, 2018, MPLX issued $2.25 billion in aggregate principal amount of senior notes in a public offering, consisting of $750 million aggregate principal amount of 4.800 percent unsecured senior notes due February 2029 and $1.5 billion aggregate principal amount of 5.500 percent unsecured senior notes due February 2049. On December 10, 2018, a portion of the net proceeds from the offering was used to redeem the $750 million in aggregate principal amount of 5.500 percent unsecured notes due February 2023 issued by MPLX and MarkWest. These notes were redeemed at 101.833 percent of the principal amount, plus the write off of unamortized deferred financing costs, resulting in a loss on extinguishment of debt of $60 million. The remaining net proceeds have or will be used to repay borrowings under MPLX's revolving credit facility and intercompany loan agreement with MPC and for general partnership purposes.

On February 8, 2018, MPLX issued $5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of $500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, $1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, $1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, $1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and $500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058. On February 8, 2018, $4.1 billion of the net proceeds were used to repay the 364-day term-loan facility. The remaining proceeds were used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with MPC and for general partnership purposes.

Interest on each series of MPLX 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.

ANDX Credit Agreements

ANDX is party to a $1.1 billion revolving credit facility and a $1.0 billion dropdown credit agreement, both of which expire in January 2021 (together, the "ANDX credit agreements"). The ANDX credit agreements are unsecured, but are guaranteed by substantially all of ANDX's subsidiaries.

The ANDX revolving credit facility includes letter of credit issuing capacity of up to $300 million and swingline loan capacity of up to $50 million. The aggregate borrowing capacity under the ANDX credit agreements may be increased by up to an additional $500 million, subject to certain conditions, including the receipt of additional lender commitments.

Borrowings under the ANDX credit agreements bear interest, at ANDX's election, at LIBOR or the Base Rate (as defined in the ANDX credit agreements) plus an applicable margin. ANDX 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 ANDX credit agreements fluctuate based on changes, if any, to ANDX's credit ratings.

The ANDX credit agreements contain 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 ANDX to maintain a Consolidated Leverage Ratio (as defined in the ANDX credit agreements) 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 used to calculate the Consolidated Leverage Ratio is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. The covenants also restrict, among other things, ANDX'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, 2018, ANDX was in compliance with the covenants contained in the ANDX credit agreements.

On December 20, 2018, ANDX amended the ANDX credit agreements to, among other things, revise the affirmative and negative covenants and events of default to be commensurate with those customarily contained in investment-grade credit facilities of a similar type and nature. Specifically, among other things, the amendments (i) granted additional flexibility to ANDX and its subsidiaries to create liens and incur indebtedness, subject to the Consolidated Leverage Ratio covenant described above, (ii) remove restrictions on the ability of ANDX and its subsidiaries to make investments and (iii) granted additional flexibility to ANDX and its subsidiaries to enter into acquisitions, sell or dispose of assets and enter into related party transactions. In addition, the amendments made certain legal and technical updates to the ANDX credit agreements, including the removal of collateral and security provisions that are no longer applicable and changes to reflect MPC's acquisition of Andeavor. The amendments did not impact the borrowing capacity available to ANDX or the interest rates and other fees payable by ANDX under the Credit Agreements.

During the fourth quarter of 2018, ANDX borrowed $760 million under the ANDX credit facilities, at an average interest rate of 4.460 percent and repaid $635 million of these borrowings. As of December 31, 2018, ANDX had $1,245 million outstanding borrowings under the ANDX credit facilities, resulting in total unused loan availability of $855 million.

ANDX Senior Notes

As of December 31, 2018, ANDX had $3.750 billion aggregate principal amount of senior notes outstanding. The ANDX senior notes consist of $500 million aggregate principal amount of 5.500 percent senior notes due October 15, 2019, $500 million aggregate principal amount of 3.500 percent senior notes due December 1, 2022, $300 million aggregate principal amount of 6.250 percent senior notes due October 15, 2022, $450 million aggregate principal amount of 6.375 percent senior notes due May 1, 2024, $750 million aggregate principal amount of 5.250 percent senior notes due January 15, 2025, $750 million aggregate principal amount of 4.250 percent senior notes due December 1, 2027 and $500 million aggregate principal amount of 5.200 percent senior notes due December 1, 2047.

Interest on each series of ANDX senior notes is payable semi-annually in arrears. The ANDX senior notes are unsecured, unsubordinated obligations of ANDX and are non-recourse to MPC and its subsidiaries other than ANDX and Tesoro Logistics GP, LLC, as the general partner of ANDX.

20. SUPPLEMENTAL CASH FLOW INFORMATION

(In millions)	2018	2017	2016
Net cash provided by operating activities included:			
Interest paid (net of amounts capitalized)	$ 887	$ 525	$ 478
Net income taxes paid to taxing authorities	424	904	140
Non-cash investing and financing activities:			
Capital leases	$ 172	$ 71	$ —
Contribution of assets to joint venture[a]	—	337	273
Intangible asset acquired	—	45	—
Acquisition:			
Fair value of MPC shares issued	19,766	—	—
Fair value of converted equity awards	203	—	—

[a] 2017 includes MPLX's contribution of assets to Sherwood Midstream and Sherwood Midstream Holdings. 2016 includes Speedway's contribution of travel plaza locations to new joint venture with Pilot Flying J. See Note 5.

(In millions)	December 31, 2018	December 31, 2017
Cash and cash equivalents	$ 1,687	$ 3,011
Restricted cash[a]	38	4
Cash, cash equivalents and restricted cash[b]	$ 1,725	$ 3,015

[a] The restricted cash balance is included within other current assets on the consolidated balance sheets.

[b] As a result of the adoption of ASU 2016-18, the consolidated statements of cash flows now explain the change during the period of both cash and cash equivalents and restricted cash.

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:

(In millions)	2018	2017	2016
Additions to property, plant and equipment per the consolidated statements of cash flows	$ 3,578	$ 2,732	$ 2,892
Asset retirement expenditures[a]	8	2	6
Increase (decrease) in capital accruals	309	67	(127)
Total capital expenditures	$ 3,895	$ 2,801	$ 2,771

[a] Included in All other, net – Operating activities on the consolidated statements of cash flows.

21. ACCUMULATED OTHER COMPREHENSIVE LOSS

The following table shows the changes in accumulated other comprehensive loss by component.

(In millions)	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2016	$ (233)	$ (7)	$ 4	$ 2	$ (234)
Other comprehensive income (loss) before reclassifications	12	(38)	—	3	(23)
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit[a]	(39)	(3)	—	—	(42)
– actuarial loss[a]	36	(2)	—	—	34
– settlement loss[a]	52	—	—	—	52
Other	—	—	—	(2)	(2)
Tax effect	(18)	2	—	—	(16)
Other comprehensive income (loss)	43	(41)	—	1	3
Balance as of December 31, 2017	$ (190)	$ (48)	$ 4	$ 3	$ (231)

(In millions)	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2017	$ (190)	$ (48)	$ 4	$ 3	$ (231)
Other comprehensive income (loss) before reclassifications	14	27	(1)	9	49
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit[a]	(33)	(3)	—	—	(36)
– actuarial loss[a]	31	(1)	—	—	30
– settlement loss[a]	53	—	—	—	53
Other	—	—	(1)	(5)	(6)
Tax effect	(7)	2	—	2	(3)
Other comprehensive income (loss)	58	25	(2)	6	87
Balance as of December 31, 2018	$ (132)	$ (23)	$ 2	$ 9	$ (144)

(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost. See Note 22.

22. DEFINED BENEFIT PENSION AND OTHER POSTRETIREMENT PLANS

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 this formula was frozen as of December 31, 2009. Benefits for service beginning January 1, 2010 are based on a cash balance formula with an annual percentage of eligible pay credited based upon age and years of service. Eligible employees in our Retail segment accrue benefits under a defined contribution plan for service years beginning January 1, 2010.

We also have other postretirement benefits covering most employees. Health care benefits are provided through comprehensive hospital, surgical and major medical 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 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. 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 $2,632 million and $2,008 million as of December 31, 2018 and 2017.

The following summarizes our defined benefit pension plans that have accumulated benefit obligations in excess of plan assets.

	December 31,	
(In millions)	2018	2017
Projected benefit obligations	$ 2,779	$ 2,164
Accumulated benefit obligations	2,632	2,008
Fair value of plan assets	2,089	1,840

The following summarizes the projected benefit obligations and funded status for our defined benefit pension and other postretirement plans:

	Pension Benefits		Other Benefits	
(In millions)	2018	2017	2018	2017
Change in benefit obligations:				
Benefit obligations at January 1	$ 2,164	$ 2,024	$ 826	$ 740
Service cost	159	132	30	25
Interest cost	83	75	30	30
Actuarial (gain) loss	(159)	150	(71)	61
Benefits paid	(273)	(217)	(36)	(30)
Plan amendments	(90)	—	34	—
Acquisitions	895	—	71	—
Benefit obligations at December 31	2,779	2,164	884	826
Change in plan assets:				
Fair value of plan assets at January 1	1,840	1,659	—	—
Actual return on plan assets	(115)	270	—	—
Employer contributions	115	128	36	30
Benefits paid from plan assets	(273)	(217)	(36)	(30)
Acquisitions	522	—	—	—
Fair value of plan assets at December 31	2,089	1,840	—	—
Funded status of plans at December 31	$ (690)	$ (324)	$ (884)	$ (826)
Amounts recognized in the consolidated balance sheets:				
Current liabilities	$ (21)	$ (18)	$ (44)	$ (33)
Noncurrent liabilities	(669)	(306)	(840)	(793)
Accrued benefit cost	$ (690)	$ (324)	$ (884)	$ (826)
Pretax amounts recognized in accumulated other comprehensive loss:[(a)]				
Net actuarial loss	$ 517	$ 537	$ 9	$ 80
Prior service cost (credit)	(295)	(238)	35	(3)

(a) Amounts exclude those related to LOOP and Explorer, equity method investees with defined benefit pension and postretirement plans for which net losses of $18 million and less than $1 million were recorded in accumulated other comprehensive loss in 2018, reflecting our ownership share.

Components of Net Periodic Benefit Cost and Other Comprehensive Loss

The following summarizes the net periodic benefit costs and the amounts recognized as other comprehensive loss for our defined benefit pension and other postretirement plans.

	Pension Benefits			Other Benefits		
(In millions)	2018	2017	2016	2018	2017	2016
Components of net periodic benefit cost:						
Service cost	$ 159	$ 132	$ 114	$ 30	$ 25	$ 32
Interest cost	83	75	73	30	30	35
Expected return on plan assets	(109)	(100)	(98)	—	—	—
Amortization – prior service credit	(33)	(39)	(46)	(3)	(3)	(3)
– actuarial (gain) loss	31	36	38	(1)	(2)	2
– settlement loss	53	52	7	—	—	—
Net periodic benefit cost[(a)]	$ 184	$ 156	$ 88	$ 56	$ 50	$ 66
Other changes in plan assets and benefit obligations recognized in other comprehensive loss (pretax):						
Actuarial (gain) loss	$ 64	$ (20)	$ (33)	$ (71)	$ 61	$ (101)
Prior service cost (credit)	(90)	—	—	34	—	—
Amortization of actuarial gain (loss)	(84)	(88)	(45)	1	2	(2)
Amortization of prior service credit	33	39	46	3	3	3
Other	—	—	—	—	—	—
Total recognized in other comprehensive loss	$ (77)	$ (69)	$ (32)	$ (33)	$ 66	$ (100)
Total recognized in net periodic benefit cost and other comprehensive loss	$ 107	$ 87	$ 56	$ 23	$ 116	$ (34)

(a) Net periodic benefit cost reflects a calculated market-related value of plan assets which recognizes changes in fair value over three years.

Lump sum payments to employees retiring in 2018, 2017 and 2016 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 2018, 2017 and 2016 related to our cumulative lump sum payments made during those years.

The estimated net actuarial loss and prior service credit for our defined benefit pension plans that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2019 are $18 million and $45 million, respectively. The estimated amount that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2019 is less than $1 million for both the net actuarial gain and prior service credit for our other defined benefit postretirement plans.

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 2018, 2017 and 2016.

	Pension Benefits			Other Benefits		
	2018	2017	2016	2018	2017	2016
Weighted-average assumptions used to determine benefit obligation:						
Discount rate	4.21%	3.55%	3.90%	4.26%	3.70%	4.25%
Rate of compensation increase	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Weighted-average assumptions used to determine net periodic benefit cost:						
Discount rate	3.88%	3.85%	3.80%	3.72%	4.25%	4.50%
Expected long-term return on plan assets	6.15%	6.50%	6.50%	—%	—%	—%
Rate of compensation increase	4.80%	5.00%	5.00%	5.00%	5.00%	5.00%

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,		
	2018	2017	2016
Health care cost trend rate assumed for the following year:			
Medical: Pre-65	6.80%	6.75%	7.00%
Prescription drugs	9.50%	8.75%	9.00%
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	2027	2026	2026
Prescription drugs	2027	2026	2026

Increases in the post-65 medical plan premium for the Marathon Petroleum Health Plan and the Marathon Petroleum Retiree Health Plan are the lower of the trend rate or four percent.

Assumed health care cost trend rates have a significant effect on the amounts reported for defined benefit retiree health care plans. A one percentage point change in assumed health care cost trend rates would have the following effects:

(In millions)	1-Percentage-Point Increase	1-Percentage-Point Decrease
Effect on total of service and interest cost components	$ 5	$ (4)
Effect on other postretirement benefit obligations	34	(30)

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, 2018, the primary plan's targeted asset allocation was 42 percent equity, private equity, real estate, and timber securities and 58 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, 2018 and 2017.

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 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 investment manager's assessment of assets held. These holdings are considered Level 3. Other investments classified as Level 1 include publicly traded depository receipts.

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, 2018 and 2017.

	December 31, 2018			
(In millions)	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ —	$ 25	$ —	$ 25
Equity:				
Common stocks	89	86	—	175
Mutual funds	159	—	—	159
Pooled funds	—	297	—	297
Fixed income:				
Corporate	176	684	—	860
Government	98	141	—	239
Pooled funds	—	201	—	201
Private equity	—	—	41	41
Real estate	—	—	29	29
Other	45	—	18	63
Total investments, at fair value	$ 567	$ 1,434	$ 88	$ 2,089

(In millions)	December 31, 2017 Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ —	$ 14	$ —	$ 14
Equity:				
Common stocks	36	—	—	36
Mutual funds	227	—	—	227
Pooled funds	—	507	—	507
Fixed income:				
Corporate	—	673	1	674
Government	—	98	—	98
Pooled funds	—	176	—	176
Private equity	—	—	51	51
Real estate	—	—	34	34
Other	2	2	19	23
Total investments, at fair value	$ 265	$ 1,470	$ 105	$ 1,840

The following is a reconciliation of the beginning and ending balances recorded for plan assets classified as Level 3 in the fair value hierarchy:

(In millions)	2018 Private Equity	Real Estate	Other	Total
Beginning balance	$ 51	$ 34	$ 20	$ 105
Actual return on plan assets:				
Realized	9	2	—	11
Unrealized	2	(1)	—	1
Purchases	1	1	—	2
Sales	(22)	(7)	(2)	(31)
Ending balance	$ 41	$ 29	$ 18	$ 88

(In millions)	2017 Private Equity	Real Estate	Other	Total
Beginning balance	$ 60	$ 39	$ 19	$ 118
Actual return on plan assets:				
Realized	11	3	—	14
Unrealized	(1)	—	1	—
Purchases	2	1	1	4
Sales	(21)	(9)	(1)	(31)
Ending balance	$ 51	$ 34	$ 20	$ 105

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 2018, we made pension contributions totaling $115 million. We have no required funding for 2019, but may make voluntary contributions at our discretion. Cash contributions to be paid from our general assets for the unfunded pension and postretirement plans are estimated to be approximately $19 million and $44 million, respectively, in 2019.

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.

(In millions)	Pension Benefits	Other Benefits
2019	$ 238	$ 44
2020	254	46
2021	219	48
2022	218	50
2023	213	51
2024 through 2028	1,048	271

Contributions to defined contribution plans – We also contribute to several defined contribution plans for eligible employees. Contributions to these plans totaled $144 million, $116 million and $113 million in 2018, 2017 and 2016, 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 2018, 2017 and 2016 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 2018 and 2017 is for the plan’s year ended December 31, 2017 and December 31, 2016, 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 2018, 2017 and 2016 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 (*In millions*)				
Pension Fund	EIN	2018	2017	FIP/RP Status Pending/Implemented	2018	2017	2016	Surcharge Imposed	Expiration Date of Collective – Bargaining Agreement
Central States, Southeast and Southwest Areas Pension Plan[(a)]	366044243	Red	Red	Implemented	$ 4	$ 4	$ 4	No	January 31, 2024

(a) This agreement has a minimum contribution requirement of $328 per week per employee for 2019. A total of 258 employees participated in the plan as of December 31, 2018.

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 $6 million, $7 million and $6 million for 2018, 2017 and 2016, respectively.

23. STOCK-BASED COMPENSATION PLANS

Description of the Plans

Effective April 26, 2012, our employees and non-employee directors became eligible to receive equity awards under the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan (“MPC 2012 Plan”). The MPC 2012 Plan authorizes the Compensation Committee of our board of directors (“Committee”) to grant non-qualified or incentive stock options, stock appreciation rights, stock awards (including restricted stock and restricted stock unit awards), cash awards and performance awards to our employees and non-employee directors. Under the MPC 2012 Plan, no more than 50 million shares of our common stock may be delivered and no more than 20 million shares of our common stock may be the subject of awards that are not stock options or stock appreciation rights. In the sole discretion of the Committee, 20 million shares of our common stock may be granted as incentive stock options. Shares issued as a result of awards granted under these plans are funded through the issuance of new MPC common shares.

Prior to April 26, 2012, our employees and non-employee directors were eligible to receive equity awards under the Marathon Petroleum Corporation 2011 Second Amended and Restated Incentive Compensation Plan (“MPC 2011 Plan”).

In connection with the Andeavor acquisition, in October of 2018 we converted the outstanding option and equity incentive awards (other than awards held by non-employee directors of Andeavor, which awards were paid out in connection with the acquisition) under the Andeavor Plans to awards that provide for rights to acquire (in the case of options) or be settled in or otherwise determined in reference to shares of MPC common stock in place of shares of Andeavor common stock (in the case of equity incentive awards). As part of that conversion we used an exchange ratio for the respective share prices of Andeavor common stock and MPC common stock to ensure that the award holders’ economic opportunity remained constant, and for converted awards which included a performance component, performance was determined at the time of the conversion and the awards became subject to a time-based vesting only design. The converted awards otherwise continue to be subject to the terms and conditions of their award agreements and the applicable Andeavor Plan under which such awards were granted. The “Andeavor Plans” as to which the award conversions apply are: the Tesoro Corporation 2006 Long-Term Incentive Plan; the Andeavor Amended and Restated 2011 Long-Term Incentive Plan; the Andeavor 2018 Long-Term Incentive Plan; and the Amended and Restated Northern Tier Energy LP 2012 Long-Term Incentive Plan.

Stock-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 – We grant stock options to certain officer and non-officer employees. All of the stock options granted in 2018 fell under the MPC 2012 Plan. Stock options awarded under the MPC 2011 Plan and the MPC 2012 Plan represent the right to purchase shares of our common stock at its fair market value, which is the closing price of MPC’s common stock on the date of grant. Stock options have a maximum term of ten years from the date they are granted, and vest over a requisite service period of three years. We use 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 and restricted stock units to employees and 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 and restricted stock unit awards granted after 2011 to officers are subject to an additional one year holding period after the three-year vesting period. Restricted stock recipients who received grants in 2012 and after have the right to vote such stock; however, dividends are accrued and will be paid upon vesting. 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 such shares and receive dividend equivalents payable upon vesting. The non-vested shares are not transferable and are held by our transfer agent. The fair values of restricted stock are equal to the market price of our common stock on the grant date.

Performance Units – We grant performance unit awards to certain officer employees. 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 units issued under the MPC 2012 Plan have a 36-month requisite service period. The payout value of these awards will be determined by the relative ranking of the total shareholder return (“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 will be settled 25 percent in MPC common stock and 75 percent in cash. The number of shares actually distributed will be determined by dividing 25 percent of the final payout 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 equity awards.

Total Stock-Based Compensation Expense

The following table reflects activity related to our stock-based compensation arrangements, including the converted awards related to the acquisition of Andeavor:

(In millions)	2018	2017	2016
Stock-based compensation expense	$ 133	$ 51	$ 45
Tax benefit recognized on stock-based compensation expense	32	19	17
Cash received by MPC upon exercise of stock option awards	24	46	10
Tax benefit received for tax deductions for stock awards exercised	14	25	4

Stock Option Awards

The Black Scholes option-pricing model values used to value stock option awards granted were determined based on the following weighted average assumptions:

	2018	2017	2016
Weighted average exercise price per share	$ 67.71	$ 50.57	$ 35.27
Expected life in years	6.2	6.3	6.2
Expected volatility	34%	35%	38%
Expected dividend yield	3.0%	3.0%	3.0%
Risk-free interest rate	2.7%	2.1%	1.4%
Weighted average grant date fair value of stock option awards granted	$ 17.21	$ 13.42	$ 9.84

The expected life of stock options granted is based on historical data and represents the period of time that options granted are expected to be held prior to exercise. The 2018 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 risk-free interest rate for periods within the expected life of the option is based on the U.S. Treasury yield curve in effect at the time of the grant.

The following is a summary of our common stock option activity in 2018:

	Number of of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2017	8,465,398	$ 33.74		
Granted	903,797	67.71		
Converted in acquisition	302,403	7.00		
Exercised	(916,566)	26.24		
Forfeited or expired	(30,437)	48.96		
Outstanding at December 31, 2018	8,724,595	37.07		
Vested and expected to vest at December 31, 2018	8,707,148	37.01	5.1	$ 199
Exercisable at December 31, 2018	6,586,859	31.42	4.0	182

The intrinsic value of options exercised by MPC employees during 2018, 2017 and 2016 was $44 million, $75 million and $14 million, respectively.

As of December 31, 2018, unrecognized compensation cost related to stock option awards was $10 million, which is expected to be recognized over a weighted average period of 1.2 years.

Restricted Stock Awards

The following is a summary of restricted stock award activity of our common stock in 2018:

	Shares of Restricted Stock ("RS")		Restricted Stock Units ("RSU")	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2017	1,188,662	$ 45.07	285,164	$ 29.95
Granted	470,951	71.19	24,430	72.43
Converted in acquisition	16,972	82.43	4,452,751	82.43
RS Vested/RSUs Issued	(624,934)	45.98	(526,254)	65.34
Forfeited	(60,951)	50.27	(9,235)	82.43
Outstanding at December 31, 2018	990,700	57.23	4,226,856	80.96

Of the 4,226,856 restricted stock units outstanding, 1,106,740 are vested and have a weighted average grant date fair value of $76.90. These vested but unissued units are held by our non-employee directors, certain of our officers and certain former officers and employees of Andeavor, are non-forfeitable and are issuable upon the director's departure from our board of directors or officers end of employment with the company or, for certain former officers and employees of Andeavor, upon the expiration of a waiting period under Section 409A of the Code.

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 (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period	Intrinsic Value of Awards Vested During the Period (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period
2018	$ 49	$ 71.19	$ 39	$ 72.43
2017	28	50.25	5	53.19
2016	17	36.17	8	40.85

As of December 31, 2018, unrecognized compensation cost related to restricted stock awards was $35 million, which is expected to be recognized over a weighted average period of 1.2 years. Unrecognized compensation cost related to restricted stock unit awards was $110 million, which is expected to be recognized over a weighted average period of 1.10 years.

Performance Unit Awards

The following table presents a summary of the 2018 activity for performance unit awards to be settled in shares:

	Number of Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2017	6,851,542	$ 0.81
Granted	3,830,000	0.83
Vested	(2,052,959)	0.95
Forfeited	(10,000)	0.92
Outstanding at December 31, 2018	8,618,583	0.79

The number of shares that would be issued upon target vesting, using the closing price of our common stock on December 31, 2018 would be 146,053 shares.

As of December 31, 2018, unrecognized compensation cost related to equity-classified performance unit awards was $3 million, which is expected to be recognized over a weighted average period of 1.3 years.

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:

	2018	2017	2016
Risk-free interest rate	2.3%	1.5%	1.0%
Look-back period (in years)	2.8	2.8	2.8
Expected volatility	34.0%	36.1%	34.2%
Grant date fair value of performance units granted	$ 0.83	$ 0.92	$ 0.57

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 and ANDX Awards

Compensation expense for awards related to MPLX and ANDX was not material to our consolidated financial statements for 2018.

24. LEASES

Lessee

We lease a wide variety of facilities and equipment under operating leases, including land and building space, office equipment, storage facilities and transportation equipment. Most long-term leases include renewal options and, in certain leases, purchase options. Future minimum commitments as of December 31, 2018, for capital lease obligations and for operating lease obligations having initial or remaining non-cancellable lease terms in excess of one year are as follows:

(In millions)	Capital Lease Obligations	Operating Lease Obligations
2019	$ 70	$ 709
2020	71	619
2021	66	553
2022	75	389
2023	82	295
Later years	586	858
Total minimum lease payments	950	$ 3,423
Less imputed interest costs	301	
Present value of net minimum lease payments	$ 649	

Operating lease rental expense was:

(In millions)	2018	2017	2016
Rental expense	$ 546	$ 367	$ 370

Lessor

MPLX has certain natural gas gathering, transportation and processing agreements in which it is considered to be the lessor under several implicit operating lease arrangements in accordance with GAAP. MPLX's primary implicit lease operations relate to a natural gas gathering agreement in the Marcellus region for which it earns a fixed-fee for providing gathering services to a single producer using a dedicated gathering system. As the gathering system is expanded, the fixed-fee charged to the producer is adjusted to include the additional gathering assets in the lease. The primary term of the natural gas gathering arrangement expires in 2038 and will continue thereafter on a year-to-year basis until terminated by either party. Other significant implicit leases relate to a natural gas processing agreement in the Marcellus region and a natural gas processing agreement in the Southern Appalachia region for which MPLX earns minimum monthly fees for providing processing services to a single producer using a dedicated processing plant. The primary term of these natural gas processing agreements expire during 2023 and 2033.

Our revenue from implicit lease arrangements, excluding executory costs, totaled approximately $221 million, $218 million and $246 million in 2018, 2017 and 2016, respectively. The implicit lease arrangements related to the processing facilities contain contingent rental provisions whereby we receive additional fees if the producer customer exceeds the monthly minimum processed volumes. During the year ended December 31, 2018, we received $10 million in contingent lease payments and $9 million for the year ended December 31, 2017. The following is a schedule of minimum future rentals on the non-cancellable operating leases as of December 31, 2018:

(In millions)		
2019	$	160
2020		159
2021		150
2022		148
2023		142
Later years		1,111
Total minimum lease payments	$	1,870

The following schedule summarizes our investment in assets held for operating lease by major classes as of December 31, 2018:

(In millions)		
Natural gas gathering and NGL transportation pipelines and facilities	$	965
Natural gas processing facilities		481
Terminal and related assets		133
Land, building, office equipment and other		43
Construction in progress		19
Property, plant and equipment		1,641
Less accumulated depreciation		219
Total property, plant and equipment	$	1,422

25. 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 an accrued liability, we are unable to estimate a range of possible loss because the issues involved have not been fully developed through pleadings and discovery. 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, 2018 and 2017, accrued liabilities for remediation totaled $455 million and $114 million. The increase in accrued liabilities is mainly a result of assuming environmental obligations in connection with the Andeavor acquisition. 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 $35 million and $45 million at December 31, 2018 and 2017, respectively.

Governmental and other entities in California, New York, Maryland and Rhode Island have filed lawsuits against coal, gas, oil and petroleum companies, including the Company. 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. 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.

Litigation Relating to the Acquisition of Andeavor

Between June 20 and July 11, 2018, six putative class actions (the “Actions”) were filed against some or all of Andeavor, the directors of Andeavor, and MPC, Mahi Inc. (“Merger Sub 1”) and Mahi LLC (n/k/a Andeavor LLC) (“Merger Sub 2” and, together with MPC and Merger Sub 1, the “MPC Defendants”), relating to the Andeavor merger. The Actions generally alleged that Andeavor, the directors of Andeavor and the MPC Defendants disseminated a false or misleading registration statement regarding the merger in violation of Section 14(a) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Rule 14a-9 promulgated thereunder. The Actions further alleged that the directors of Andeavor and/or the MPC Defendants were liable for these violations as “controlling persons” of Andeavor under Section 20(a) of the Exchange Act. The Actions sought injunctive relief, including to enjoin and/or rescind the merger, damages in the event the merger is consummated, and an award of attorneys’ fees, in addition to other relief.

The parties ultimately reached an agreement in principle to resolve the Actions in exchange for supplemental disclosures. Consistent with that agreement, Andeavor and MPC each filed a Current Report on Form 8-K on September 14, 2018 that included certain additional disclosures in response to plaintiffs’ allegations. Between September 21 and September 28, 2018, all the Actions were dismissed as moot, and the parties reserved their rights in the event of any dispute over attorneys’ fees and expenses. In the fourth quarter of 2018, the Company resolved the remaining disputes over attorneys’ fees for an amount that was not material to the Company.

Other Lawsuits

In May 2015, the Kentucky attorney general filed a lawsuit against our wholly-owned subsidiary, MPC LP, in the United States District Court for the Western District of Kentucky asserting claims under federal and state antitrust statutes, the Kentucky Consumer Protection Act, and state common law. The complaint, as amended in July 2015, alleges that MPC LP used deed restrictions, supply agreements with customers and exchange agreements with competitors to unreasonably restrain trade in areas within Kentucky and seeks declaratory relief, unspecified damages, civil penalties, restitution and disgorgement of profits. At this stage, the ultimate outcome of this litigation remains uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined, and we are unable to estimate a reasonably possible loss (or range of loss) for this matter. We intend to vigorously defend ourselves in this matter.

In May 2007, the Kentucky attorney general filed a lawsuit against us and Marathon Oil in state court in Franklin County, Kentucky for alleged violations of Kentucky’s emergency pricing and consumer protection laws following Hurricanes Katrina and Rita in 2005. The lawsuit alleges that we overcharged customers by $89 million during September and October 2005. The complaint seeks disgorgement of these sums, as well as penalties, under Kentucky’s emergency pricing and consumer protection laws. We are vigorously defending this litigation. We believe that this is the first lawsuit for damages and injunctive relief under the Kentucky emergency pricing laws to progress this far and it contains many novel issues. In May 2011, the Kentucky attorney general amended his complaint to include a request for immediate injunctive relief as well as unspecified damages and penalties related to our wholesale gasoline pricing in April and May 2011 under statewide price controls that were activated by the Kentucky governor on April 26, 2011 and which have since expired. The court denied the attorney general’s request for immediate injunctive relief, and the remainder of the 2011 claims likely will be resolved along with those dating from 2005. If the lawsuit is resolved unfavorably in its entirety, it could materially impact our consolidated results of operations, financial position or cash flows. However, management does not believe the ultimate resolution of this litigation will have a material adverse effect on our consolidated financial position, results of operations, or cash flows.

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 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 – 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 vary 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, 2018.

In connection with our 50 percent ownership in Crowley Ocean Partners, we have agreed to conditionally guarantee our portion of the obligations of the joint venture and its subsidiaries under a senior secured term loan agreement. The term loan agreement provides for loans of up to $325 million to finance the acquisition of four product tankers. MPC’s liability under the guarantee for each vessel is conditioned upon the occurrence of certain events, including if we cease to maintain an investment-grade credit rating or the charter for the relevant product tanker ceases to be in effect and is not replaced by a charter with an investment-grade company on certain defined commercial terms. As of December 31, 2018, our maximum potential undiscounted payments under this agreement for debt principal totaled $163 million.

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. The maximum exposure under these arrangements is 50 percent of the amount of the debt, which was $128 million as of December 31, 2018.

Marathon Oil indemnifications – In conjunction with the spinoff, we have entered into arrangements with Marathon Oil providing indemnities and guarantees with recorded values of $2 million as of December 31, 2018, which consist of unrecognized tax benefits related to MPC, its consolidated subsidiaries and the refining, marketing and transportation business operations prior to the spinoff which are not already reflected in the unrecognized tax benefits described in Note 12, and other contingent liabilities Marathon Oil may incur related to taxes. Furthermore, the separation and distribution agreement and other agreements with Marathon Oil to effect the 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 $123 million as of December 31, 2018, which consist primarily of a commitment to contribute cash to an equity method investee for certain catastrophic events in lieu of procuring insurance coverage 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, 2018 and 2017, our contractual commitments to acquire property, plant and equipment and advance funds to equity method investees totaled $1.8 billion and $484 million.

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.

SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

	2018				2017			
(In millions, except per share data)	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.[a]
Sales and other operating revenues[b]	$ 18,866	$ 22,317	$ 22,988	$ 32,333	$ 16,288	$ 18,180	$ 19,210	$ 21,055
Income from operations	440	1,711	1,403	2,017	291	982	1,577	1,168
Net income	235	1,235	941	1,195	101	574	1,004	2,125
Net income attributable to MPC	37	1,055	737	951	30	483	903	2,016
Net income attributable to MPC per share[c]:								
Basic	$ 0.08	$ 2.30	$ 1.63	$ 1.38	$ 0.06	$ 0.94	$ 1.79	$ 4.13
Diluted	0.08	2.27	1.62	1.35	0.06	0.93	1.77	4.09

(a) During the fourth quarter of 2017, we recorded a tax benefit of approximately $1.5 billion as a result of remeasuring certain deferred tax liabilities using the lower corporate tax rate enacted under the TCJA.

(b) Includes sales to related parties. The 2018 periods reflect an election to present certain taxes on a net basis concurrent with our adoption of ASC 606.

(c) The sum of the per-share amounts for the four quarters may not always equal the annual per-share amounts due to differences in the average number of shares outstanding during the respective periods.

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 Rules 13a-15(e) under the Exchange Act 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, 2018, the end of the period covered by this Annual Report on Form 10-K.

Internal Control over Financial Reporting and Changes in Internal Control over Financial Reporting

On October 1, 2018, the Company completed its acquisition of Andeavor. Accordingly, the acquired assets and liabilities of Andeavor are included in our consolidated balance sheet as December 31, 2018 and the results of its operations and cash flows are reported in our consolidated statements of income and cash flows from October 1, 2018 through December 31, 2018. We have elected to exclude Andeavor from the Company's assessment of internal control over financial reporting as of December 31, 2018. During the quarter ended December 31, 2018, there have been no other 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. See Item 8. Financial Statements and Supplementary Data – Management's Report on Internal Control over Financial Reporting and – Report of Independent Registered Public Accounting Firm, which reports are incorporated herein by reference.

ITEM 9B. OTHER INFORMATION

On February 27, 2019, the Board amended Article IV of the bylaws to clarify the corporate capacities of certain enumerated officers.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERANCE

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 “Proposal 1. Election of Directors” in our Proxy Statement for the 2019 Annual Meeting of Shareholders, to be filed with the SEC within 120 days of December 31, 2018 (the “Proxy Statement”).

We have adopted a Code of Ethics for Senior Financial Officers, which applies to our Chief Executive Officer, Chief Financial Officer, Vice President and Controller, Treasurer and other persons performing similar functions. It is available on our website at www.marathonpetroleum.com by selecting “Investors,” then “Corporate Governance,” and clicking on “Code of Ethics for Senior Financial Officers.”

The other information required by this Item is incorporated by reference to “Corporate Governance—Committees of the Board” and “Stock Ownership Information—Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

Information required by this Item is incorporated by reference to “Compensation Discussion and Analysis,” “Executive Compensation Tables” and “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 "Stock Ownership Information" in our Proxy Statement.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2018 with respect to shares of our common stock that may be issued under 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	8,868,654	$ 38.15	39,931,756
Equity compensation plan not approved by stockholders	—	—	—
Total	8,868,654	N/A	39,931,756

(a) Includes the following:

1) 8,422,192 stock options granted pursuant to the MPC 2012 Plan and the MPC 2011 Plan and not forfeited, cancelled or expired as of December 31, 2018. The amounts in column (a) do not include 302,403 stock options granted under the Andeavor Plans and not forfeited, cancelled or expired as of December 31, 2018.
2) 158,423 restricted stock units granted pursuant to the MPC 2012 Plan and the MPC 2011 Plan for shares unissued and not forfeited, cancelled or expired as of December 31, 2018. The amounts in column (a) do not include 4,068,433 restricted stock units granted under the Andeavor Plans and not forfeited, cancelled or expired as of December 31, 2018.
3) 288,039 shares as the maximum potential number of shares that could be issued in settlement of performance units outstanding as of December 31, 2018 pursuant to the MPC 2012 Plan, based on the closing price of our common stock on December 31, 2018 of $59.01 per share. The number of shares reported for this award vehicle may overstate dilution. See Note 23 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. Further, the outstanding stock options granted under the Andeavor Plans were not taken into account in the weighted-average exercise price.

(c) Reflects the shares available for issuance pursuant to the MPC 2012 Plan. 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. No more than 16,138,076 of the shares reported in this column may be issued for awards other than stock options or stock appreciation rights. The number of shares reported in this column assumes 288,039 as the maximum potential number of shares that could be issued pursuant to the MPC 2012 Plan in settlement of performance units outstanding as of December 31, 2018, based on the closing price of our common stock on December 31, 2018, of $59.01 per share. The number of shares assumed for this award vehicle may understate the number of shares available for issuance pursuant to the MPC 2012 Plan. See Note 23 for more information on performance unit awards granted pursuant to the MPC 2012 Plan. Shares related to grants made pursuant to the MPC 2012 Plan that are forfeited, cancelled or expire unexercised become immediately available for issuance under the MPC 2012 Plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by this Item is incorporated by reference to "Related Party Transactions" and "Corporate Governance—Director Independence" in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this Item is incorporated by reference to "Audit-Related Matters—Audit 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 Agreement by and between Speedway LLC and Hess Corporation, dated as of May 21, 2014	8-K	2.1	5/27/2014	001-35054		
2.3 †	Amendment No. 1 effective as of September 30, 2014, to the Purchase Agreement by and between Speedway LLC and Hess Corporation, dated as of May 21, 2014	8-K	2.2	10/6/2014	001-35054		
2.4 †	Agreement and Plan of Merger, dated as of July 11, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and, for certain limited purposes set forth therein, Marathon Petroleum Corporation.	8-K	2.1	7/16/2015	001-35054		
2.5	Amendment to Agreement and Plan of Merger, dated as of November 10, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and Marathon Petroleum Corporation.	8-K	2.1	11/12/2015	001-35054		
2.6	Amendment Number 2 to Agreement and Plan of Merger, dated as of November 16, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and Marathon Petroleum Corporation.	8-K	2.1	11/17/2015	001-35054		
2.7 †	Agreement and Plan of Merger, dated as of April 29, 2018, by and among Marathon Petroleum Corporation, Andeavor, Mahi Inc. and Mahi LLC	8-K	2.1	4/30/2018	001-35054		
2.8	Amendment to Agreement and Plan of Merger, dated as of July 3, 2018, by and among Andeavor, Marathon Petroleum Corporation, Mahi Inc. and Mahi LLC.	S-4/A	2.2	7/5/2018	333-225244		
2.9	Second Amendment to Agreement and Plan of Merger, dated as of September 18, 2018, by and among Andeavor, Marathon Petroleum Corporation, Mahi Inc. and Mahi LLC.	8-K	2.1	9/18/2018	001-35054		
3	**Articles of Incorporation and Bylaws**						
3.1	Restated Certificate of Incorporation of Marathon Petroleum Corporation, dated October 1, 2018.	8-K	3.2	10/1/2018	001-35054		
3.2	Amended and Restated Bylaws of Marathon Petroleum Corporation dated as of February 27, 2019					X	
4	**Instruments Defining the Rights of Security Holders, Including Indentures**						
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		

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
4.2	Form of the terms of the 3 1/2% Senior Notes due 2016, 5 1/8% Senior Notes due 2021 and 6 1/2% Senior Notes due 2041 of Marathon Petroleum Corporation (including Form of Notes)	10	4.2	3/29/2011	001-35054		
4.3	First Supplemental Indenture, dated as of September 5, 2014, by and between Marathon Petroleum Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee (including Form of Notes)	10-Q	4.1	11/3/2014	001-35054		
4.4	Second Supplemental Indenture, dated as of December 14, 2015, by and between Marathon Petroleum Corporation and the Bank of New York Mellon Trust Company, N.A., as trustee (including Form of Notes)	8-K	4.1	12/14/2015	001-35054		
4.5	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		
4.6	First Supplemental Indenture, dated February 12, 2015, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Notes)	8-K	4.2	2/12/2015	001-35714		
4.7	Second Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.2	12/22/2015	001-35714		
4.8	Third Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.3	12/22/2015	001-35714		
4.9	Fourth Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.4	12/22/2015	001-35714		
4.10	Fifth Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.5	12/22/2015	001-35714		
4.11	Sixth Supplemental Indenture, dated as of February 10, 2017, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.1	2/10/2017	001-35714		
4.12	Seventh Supplemental Indenture, dated as of February 10, 2017, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.2	2/10/2017	001-35714		
4.13	Eighth Supplemental Indenture, dated as of February 8, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.1	2/8/2018	001-35714		
4.14	Ninth Supplemental Indenture, dated as of February 8, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.2	2/8/2018	001-35714		
4.15	Tenth Supplemental Indenture, dated as of February 8, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.3	2/8/2018	001-35714		
4.16	Eleventh Supplemental Indenture, dated as of February 8, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.4	2/8/2018	001-35714		
4.17	Twelfth Supplemental Indenture, dated as of February 8, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.5	2/8/2018	001-35714		

4.18	Third Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.1	10/5/2018	001-35054

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
4.19	Fourth Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.2	10/5/2018	001-35054		
4.20	Fifth Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.3	10/5/2018	001-35054		
4.21	Sixth Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.4	10/5/2018	001-35054		
4.22	Seventh Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.5	10/5/2018	001-35054		
4.23	Eighth Supplemental Indenture, dated as of October 2, 2018, by and between MPC and the Bank of New York Mellon Trust Company, N.A. (including Form of Note).	8-K	4.6	10/5/2018	001-35054		
4.24	Registration Rights Agreement, dated as of October 2, 2018, by and between MPC, as issuer, each of Citigroup Global Markets Inc. and RBC Capital Markets, LLC, as dealer managers.	8-K	4.7	10/5/2018	001-35054		
4.25	Indenture (including form of note), dated as of September 27, 2012, among Tesoro Corporation, the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 4.250% Senior Notes due 2017 and the 5.375% Senior Notes due 2022	8-K	4.1	10/2/2012	001-03473 (Andeavor)		
4.26	Indenture (including form of note), dated as of March 18, 2014, among Tesoro Corporation, the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.125% Senior Notes due 2024	8-K	4.1	3/18/2014	001-03473 (Andeavor)		
4.27	Indenture (including form of Notes), dated as of December 22, 2016, among Tesoro Corporation, the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 4.750% Senior Notes due 2023 and the 5.125% Senior Notes due 2026	8-K	4.1	12/22/2016	001-03473 (Andeavor)		
4.28	Indenture, dated as of December 21, 2017 among Andeavor and U.S. Bank National Association, as trustee, relating to the 3.800% Senior Notes due 2028 and the 4.500% Senior Notes due 2048	8-K	4.1	12/21/2017	001-03473 (Andeavor)		
4.29	First Supplemental Indenture, dated as of December 21, 2017 among Andeavor and U.S. Bank National Association, as trustee, relating to the 3.800% Senior Notes due 2028 and the 4.500% Senior Notes due 2048	8-K	4.2	12/21/2017	001-03473 (Andeavor)		
4.30	Indenture, dated as of October 29, 2014, among Tesoro Logistics LP, Tesoro Logistics Finance Corp., the guarantors named therein and U.S. Bank National Association, as trustee , relating to the 5.50% Senior Notes due 2019 and the 6.25% Senior Notes due 2022	10-Q	4.3	10/31/2014	001-03473 (Andeavor)		
4.31	Indenture, dated as of May 12, 2016, among Tesoro Logistics LP, Tesoro Logistics Finance Corp., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 6.375% Senior Notes due 2024	10-K	4.33	2/21/2017	001-03473 (Andeavor)		

4.32	Indenture, dated as of December 2, 2016, among Tesoro Logistics LP, Tesoro Logistics Finance Corp., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.25% Senior Notes due 2025	10-K	4.34	2/21/2017	001-03473 (Andeavor)

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
4.33	Indenture, dated as of November 28, 2017, among Tesoro Logistics LP, Tesoro Logistics Finance Corp., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 3.500% Senior Notes due 2022, 4.250% Senior Notes due 2027 and 5.200% Senior Notes due 2047 (incorporated by reference to Exhibit 4.1 to Andeavor Logistics' Current Report on Form 8-K filed on November 28, 2017, File No. 1-35143)						
4.34	Supplemental Indenture, dated as of September 13, 2018, to Indenture dated as of September 27, 2012 between Andeavor and U.S. Bank National Association, as trustee.	8-K	4.1	9/14/2018	001-03473 (Andeavor)		
4.35	Supplemental Indenture, dated as of September 13, 2018, to Indenture, dated as of March 18, 2014 between Andeavor and U.S. Bank National Association, as trustee.	8-K	4.2	9/14/2018	001-03473 (Andeavor)		
4.36	First Supplemental Indenture, dated as of September 13, 2018, to Indenture, dated as of December 22, 2016 between Andeavor and U.S. Bank National Association, as trustee.	8-K	4.3	9/14/2018	001-03473 (Andeavor)		
4.37	Second Supplemental Indenture, dated as of September 13, 2018, to Indenture, dated as of December 21, 2017 between Andeavor and U.S. Bank National Association, as trustee.	8-K	4.4	9/14/2018	001-03473 (Andeavor)		
4.38	Thirteenth Supplemental Indenture, dated as of November 15, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including form of note)	8-K	4.1	11/15/2018	001-35714		
4.39	Fourteenth Supplemental Indenture, dated as of November 15, 2018, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including form of note)	8-K	4.2	11/15/2018	001-35714		
10	**Material Contracts**						
10.1	Tax Sharing Agreement dated as of May 25, 2011 by and among Marathon Oil Corporation, Marathon Petroleum Corporation and MPC Investment LLC	10	10.1	5/26/2011	001-35054		
10.2	Employee Matters Agreement dated as of May 25, 2011 by and between Marathon Oil Corporation and Marathon Petroleum Corporation	10	10.2	5/26/2011	001-35054		
10.3	Amendment to Employee Matters Agreement, dated as of June 30, 2011 by and between Marathon Oil Corporation and Marathon Petroleum Corporation	8-K	10.1	7/1/2011	001-35054		
10.4	Receivables Purchase Agreement, dated as of December 18, 2013, by and among MPC Trade Receivables Company, LLC, Marathon Petroleum Company LP, The Bank of Tokyo-Mitsubishi UFJ, Ltd., New York Branch, as administrative agent and sole lead arranger, certain committed purchasers and conduit purchasers that are parties thereto from time to time and certain other parties thereto from time to time as managing agents and letter of credit issuers.	8-K	10.1	12/23/2013	001-35054		
10.5	Second Amended and Restated Receivables Sale Agreement, dated as of December 18, 2013, by and between Marathon Petroleum Company LP and MPC Trade Receivables Company LLC	8-K	10.2	12/23/2013	001-35054		
10.6	Contribution, Conveyance and Assumption Agreement, dated as of October 31, 2012, among MPLX LP, MPLX GP LLC, MPLX Operations LLC, MPC Investment LLC, MPLX Logistics Holdings LLC, Marathon Pipe Line LLC, MPL Investment LLC, MPLX Pipe Line Holdings LP and Ohio River	8-K	10.1	11/6/2012	001-35054		

	Pipe Line LLC.				
10.7	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
10.8 *	Marathon Petroleum Corporation Second Amended and Restated 2011 Incentive Compensation Plan	S-3	4.3	12/7/2011	333-175286		
10.9 *	Marathon Petroleum Corporation Policy for Recoupment of Annual Cash Bonus Amounts	10-K	10.10	2/29/2012	001-35054		
10.10 *	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors	10-K	10.13	2/28/2013	001-35054		
10.11 *	Marathon Petroleum Amended and Restated Excess Benefit Plan	10-K	10.14	2/24/2017	001-35054		
10.12 *	Marathon Petroleum Amended and Restated Deferred Compensation Plan	10-K	10.13	2/29/2012	001-35054		
10.13 *	Marathon Petroleum Corporation Executive Tax, Estate, and Financial Planning Program	10-K	10.14	2/29/2012	001-35054		
10.14 *	Speedway Excess Benefit Plan	10-K	10.15	2/29/2012	001-35054		
10.15 *	Speedway Deferred Compensation Plan	10-K	10.16	2/29/2012	001-35054		
10.16 *	Form of Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.6	7/7/2011	001-35054		
10.17 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.2	12/7/2011	001-35054		
10.18 *	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		
10.19 *	Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefits Plan	10-K	10.21	2/28/2018	001-35054		
10.20 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.4	5/9/2012	001-35054		
10.21 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.5	5/9/2012	001-35054		
10.22 *	Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-Q	10.1	5/1/2017	001-35054		
10.23 *	MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.32	2/28/2013	001-35054		
10.24 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.2	5/9/2013	001-35054		
10.25 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.3	5/9/2013	001-35054		
10.26 *	MPLX LP – Form of MPC Officer Phantom Unit Award Agreement	10-Q	10.4	5/9/2013	001-35054		
10.27 *	MPLX LP – Form of MPC Officer Performance Unit Award Agreement – 2013-2015 Performance Cycle	10-Q	10.5	5/9/2013	001-35054		
10.28 *	First Amendment to the Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan	10-Q	10.1	8/3/2015	001-35054		
10.29 *	First Amendment to the Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-Q	10.2	8/3/2015	001-35054		
10.30 *	Form of Modification to Performance Unit Award Agreements for the 2016-2018 and 2017-2019 Performance Cycles	10-K	10.33	2/28/2018	001-35054		
10.31 *	Marathon Petroleum Thrift Plan	10-K	10.45	2/24/2017	001-35054		
10.32	First Amendment to Receivables Purchase Agreement, dated July 20, 2016, by and among MPC Trade Receivables Company LLC, Marathon Petroleum Company LP, The Bank of Tokyo-Mitsubishi UFJ., Ltd., New York Branch, as administrative agent and sole lead arranger, certain committed purchasers and	8-K	10.3	7/26/2016	001-35054		

conduit purchasers that are parties thereto from time to time and certain other parties thereto from time to time as managing agents and letter of credit issuers.

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.33 *	Form of Marathon Petroleum Corporation Performance Unit Award Agreement	10-Q	10.1	5/2/2016	001-35054		
10.34 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement - Officer	10-Q	10.2	5/2/2016	001-35054		
10.35 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement - Officer	10-Q	10.3	5/2/2016	001-35054		
10.36 *	Form of MPLX LP Performance Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.3	5/1/2017	001-35054		
10.37 *	Form of MPLX LP Phantom Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.5	5/2/2016	001-35054		
10.38 *	Form of MPLX LP Performance Unit Award Agreement	10-Q	10.2	5/1/2017	001-35054		
10.39 *	MPLX LP Executive Change in Control Severance Benefits Plan	10-Q	10.4	10/30/2017	001-35054		
10.40	Credit Agreement, dated as of July 21, 2017, 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, Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd. and RBC Capital Markets, 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, Citigroup Global Markets Inc., Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto.	8-K	10.3	7/27/2017	001-35054		
10.41	Partnership Interests Restructuring Agreement, dated as of December 15, 2017, among MPLX GP LLC and MPLX LP	8-K	10.1	12/19/2017	001-35054		
10.42	MPLX LP 2018 Incentive Compensation Plan	8-K	10.1	3/5/2018	001-35714		
10.43	Form of Marathon Petroleum Corporation Performance Unit Award Agreement	10-Q	10.3	4/30/2018	001-35054		
10.44	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement - Officer	10-Q	10.4	4/30/2018	001-35054		
10.45	Form of MPLX LP Performance Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.5	4/30/2018	001-35054		
10.46	Form of MPLX LP Phantom Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.6	4/30/2018	001-35054		
10.47	Form of MPLX LP Performance Unit Award Agreement	10-Q	10.7	4/30/2018	001-35054		
10.48	Form of MPLX LP Phantom Unit Award Agreement - Officer	10-Q	10.8	4/30/2018	001-35054		
10.49	Form of MPLX LP Phantom Unit Award Agreement - Officer - Three Year Cliff Vesting	10-Q	10.9	4/30/2018	001-35054		
10.50	Voting and Support Agreement, dated as of April 29, 2018, by and among Marathon Petroleum Corporation, Andeavor, Mahi Inc. Mahi LLC, Paul L. Foster and Franklin Mountain Investments, LP.	8-K	10.1	4/30/2018	001-35054		

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.51	Five Year Revolving Credit Agreement, dated as of August 28, 2018, among MPC, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, Citibank, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., MUFG Bank, Ltd. and RBC Capital Markets, 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., and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto.	8-K	10.1	8/31/2018	001-35054		
10.52	364 Day Revolving Credit Agreement, dated as of August 28, 2018, among MPC, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, Citibank, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., MUFG Bank, Ltd. and RBC Capital Markets, 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., and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto.	8-K	10.2	8/31/2018	001-35054		
10.53 *	Letter Agreement between Marathon Petroleum Corporation and Gregory J. Goff, dated as of April 29, 2018 and effective as of October 1, 2018.	8-K	10.1	10/1/2018	001-35054		
10.54 *	Tesoro Corporation 2006 Long-Term Incentive Plan (as amended and restated)	8-K	10.4	12/18/2008	001-03473 (Andeavor)		
10.55 *	Andeavor 2011 Long-Term Incentive Plan (as amended and restated)	10-K	10.68	2/21/2018	001-03473 (Andeavor)		
10.56 *	Andeavor 2018 Long-Term Incentive Plan	S-8	99.1	5/4/2018	333-224688 (Andeavor)		
10.57 *	Amended and Restated Northern Tier Energy LP 2012 Long Term Incentive Plan	S-8	99.1	6/1/2017	333-218424 (Andeavor)		
10.58 *	Nonqualified stock option inducement award letters, dated as of May 6, 2010, by and between Tesoro Corporation and Gregory J. Goff	S-8	99.2	5/11/2011	333-174132 (Andeavor)		
10.59 *	Marathon Petroleum Annual Cash Bonus Program					X	
10.60 *	Form of Executive Officer Synergy Incentive Award Agreement	8-K	10.1	1/30/2019	001-35054		
10.61 *	Form of Chief Executive Officer Synergy Incentive Award Agreement	8-K	10.2	1/30/2019	001-35054		
10.62 *	Tesoro Corporation 2016 Performance Share Award Grant Letter	8-K	10.4	2/3/2016	001-03473 (Andeavor)		
10.63 *	Tesoro Corporation 2017 Performance Share Grant Letter	8-K	10.1	2/21/2017	001-03473 (Andeavor)		
10.64 *	Tesoro Corporation 2016 Market Stock Unit Award Grant Letter	8-K	10.5	2/3/2016	001-03473 (Andeavor)		

10.65 *	Tesoro Corporation 2017 Market Stock Unit Grant Letter	8-K	10.3	2/21/2017	001-03473 (Andeavor)
10.66 *	Tesoro Corporation Performance Share Awards Granted in 2016 Summary of Key Provisions	8-K	10.6	2/3/2016	001-03473 (Andeavor)
10.67 *	Tesoro Corporation Performance Share Awards Granted in 2017 Summary of Key Provisions	8-K	10.2	2/21/2017	001-03473 (Andeavor)
10.68 *	Tesoro Corporation Market Stock Unit Awards Granted in 2016 Summary of Key Provisions	8-K	10.7	2/3/2016	001-03473 (Andeavor)
10.69 *	Tesoro Corporation Market Stock Unit Awards Granted in 2017 Summary of Key Provisions	8-K	10.4	2/21/2017	001-03473 (Andeavor)
10.70 *	Andeavor 2018 Performance Share Award Grant Letter	8-K	10.1	2/20/2018	001-03473 (Andeavor)

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.71 *	Andeavor Performance Share Awards Granted in 2018 Summary of Key Provisions	8-K	10.2	2/20/2018	001-03473 (Andeavor)		
10.72 *	Andeavor 2018 Market Stock Unit Award Grant Letter	8-K	10.3	2/20/2018	001-03473 (Andeavor)		
10.73 *	Andeavor Market Stock Unit Awards Granted in 2018 Summary of Key Provisions	8-K	10.4	2/20/2018	001-03473 (Andeavor)		
10.74	Term Loan Agreement, dated as of January 2, 2018, by and among MPLX LP, as borrower, Mizuho Bank, Ltd., as administrative agent, each of Mizuho Bank, Ltd., Merrill Lynch, Pierce, Fenner & Smith Incorporated, The Bank of Tokyo-Mitsubishi UFJ, Ltd., Barclays Bank PLC, JPMorgan Chase Bank, N.A. and Wells Fargo Securities, LLC, as joint lead arrangers and joint bookrunners, each of Bank of America, N.A., The Bank of Tokyo-Mitsubishi UFJ, Ltd., Barclays Bank PLC, JPMorgan Chase Bank, N.A. and Wells Fargo Bank, National Association, as syndication agents, and the lenders that are parties thereto	8-K	10.1	1/4/2018	001-35054		
10.75	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors, as amended and restated January 1, 2019					X	
10.76 *	Conversion Notice for Andeavor Awards					X	
10.77	First Amendment to Fourth Amended and Restated Omnibus Agreement, dated as of January 30, 2019, among Andeavor LLC, Marathon Petroleum Company LP, Tesoro Refining & Marketing Company LLC, Tesoro Companies, Inc., Tesoro Alaska Company LLC, Andeavor Logistics LP and Tesoro Logistics GP, LLC					X	
10.78	Fourth Amended and Restated Omnibus Agreement, dated as of October 30, 2017, among Andeavor, Tesoro Refining & Marketing Company LLC, Tesoro Companies, Inc., Tesoro Alaska Company LLC, Tesoro Logistics LP and Tesoro Logistics GP, LLC	8-K	10.2	10/31/2017	001-35143 (ANDX)		
10.79	Third Amended and Restated Schedules to Fourth Amended and Restated Omnibus Agreement, effective August 6, 2018, by and among Andeavor, Tesoro Refining & Marketing Company LLC, Tesoro Companies, Inc., Tesoro Alaska Company LLC, Andeavor Logistics LP and Tesoro Logistics GP, LLC	10-Q	10.2	11/17/2018	001-35143 (ANDX)		
10.80	Third Amended and Restated Senior Secured Revolving Credit Agreement, dated as of January 29, 2016, among Tesoro Logistics LP, Bank of America, N.A., as administrative agent, and the other lenders party thereto	8-K	10.1	2/3/2016	001-35143 (ANDX)		
10.81	Senior Secured Revolving Credit Agreement, dated as of January 29, 2016, among Tesoro Logistics LP, Bank of America, N.A., as administrative agent, and the other lenders party thereto	8-K	10.2	2/3/2016	001-35143 (ANDX)		
10.82	Amendment No. 1 to Third Amended and Restated Credit Agreement, dated as of January 5, 2018, among Andeavor Logistics LP, certain subsidiaries of Andeavor Logistics LP party thereto, the lenders party thereto, and Bank of America, N.A.	8-K	10.1	1/5/2018	001-35143 (ANDX)		
10.83	Amendment No. 1 to Credit Agreement, dated as of January 5, 2018, among Andeavor Logistics LP, certain subsidiaries of Andeavor Logistics LP party thereto, the lenders party thereto, and Bank of America, N.A.	8-K	10.2	1/5/2018	001-35143 (ANDX)		
10.84	Amendment No. 2 to Third Amended and Restated Credit Agreement, dated as of December 20, 2018,	8-K	10.1	12/27/2018	001-35143 (ANDX)		

among Andeavor Logistics LP, as borrower, certain of its subsidiaries party thereto, as guarantors, the lenders party thereto, and Bank of America, N.A., as administrative agent

Exhibit Number	Exhibit Description	Form	Incorporated by Reference Exhibit	Filing Date	SEC File No.	Filed Herewith	Furnished Herewith
10.85	Amendment No. 2 to the Credit Agreement, dated as of December 20, 2018, among Andeavor Logistics LP, as borrower, certain of its subsidiaries party thereto, as guarantors, the lenders party thereto, and Bank of America, N.A., as administrative agent	8-K	10.2	12/27/2018	001-35143 (ANDX)		
10.86	MPLX LP 2018 Incentive Compensation Plan MPC Non-Employee Director Phantom Unit Award Policy					X	
10.87 *	Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan					X	
14.1	Code of Ethics for Senior Financial Officers	10-K	14.1	2/24/2017			
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	XBRL Instance Document.					X	
101.SCH	XBRL Taxonomy Extension Schema.					X	
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.					X	
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.					X	
101.DEF	XBRL Taxonomy Extension Definition Linkbase.					X	
101.LAB	XBRL Taxonomy Extension Label Linkbase.					X	

† 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.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

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 28, 2019	MARATHON PETROLEUM CORPORATION
	By: /s/ John J. Quaid
	John J. Quaid Vice President and Controller

Table of Contents

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on February 28, 2019 on behalf of the registrant and in the capacities indicated.

Signature	Title
/s/ Gary R. Heminger Gary R. Heminger	Chairman of the Board and Chief Executive Officer (principal executive officer)
/s/ Timothy T. Griffith Timothy T. Griffith	Senior Vice President and Chief Financial Officer (principal financial officer)
/s/ John J. Quaid John J. Quaid	Vice President and Controller (principal accounting officer)
* Abdulaziz F. Alkhayyal	Director
* Evan Bayh	Director
* Charles E. Bunch	Director
* Steven A. Davis	Director
* Edward G. Galante	Director
* Gregory J. Goff	Director
* James E. Rohr	Director
* Kim K.W. Rucker	Director
* J. Michael Stice	Director
* John P. Surma	Director
* 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/ Gary R. Heminger	February 28, 2019

Gary R. Heminger
Attorney-in-Fact

(Back To Top)

Section 2: EX-3.2 (EXHIBIT 3.2)

Exhibit 3.2

AMENDED AND RESTATED

BYLAWS

OF

MARATHON PETROLEUM CORPORATION

AMENDED AND RESTATED
BYLAWS OF
MARATHON PETROLEUM CORPORATION

TABLE OF CONTENTS

AMENDED AND RESTATED
BYLAWS
OF
MARATHON PETROLEUM CORPORATION

The Board of Directors of Marathon Petroleum Corporation (the "Corporation") by resolution has duly adopted these Amended and Restated Bylaws (these "Bylaws") pursuant to Section 109 of the General Corporation Law of the State of Delaware (the "DGCL").

ARTICLE I
STOCKHOLDERS

Section 1.1 Annual Meetings. The Corporation shall hold an annual meeting (each an "Annual Meeting") of the holders of its capital stock (each, a "Stockholder") each calendar year for the election of Directors of the Corporation (each, a "Director") at such date, time and place as the Board of Directors of the Corporation (the "Board") by resolution may designate, or if the Board does not designate a date, time and place, the Annual Meeting will be held at 10:00 a.m., Eastern Time, on the last Thursday in April, at the principal executive office of the Corporation. The Corporation may transact any other business, or act on any proposal, at an Annual Meeting which has properly come before that meeting in accordance with Section 1.10.

Section 1.2 Special Meetings.

(a) *Calling of Special Meetings*. Any of the following may call a special meeting of Stockholders for any purpose or purposes at any time and designate the date, time and place of any such meeting: (i) the Chairman of the Board; (ii) the Chief Executive Officer (iii) the Board pursuant to a resolution approved by a majority of the Directors then in office; or (iv) the Board, upon the written request of Stockholders owning (as defined in Section 2.12) at least twenty-five percent (25%), in the aggregate, of the voting power of the then issued and outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of Directors (the "Requisite Percentage"). Except as the Restated Certificate of Incorporation of the Corporation (as amended or amended and restated from time to time and including each certificate of designation, if any, respecting any class or series of preferred stock of the Corporation which has been executed, acknowledged and filed in accordance with the DGCL (the "Certificate of Incorporation")) or the DGCL or any other applicable law, statute, rule or regulation (collectively, "Applicable Laws") otherwise require, no other person or persons may call a special meeting of Stockholders.

(b) *Stockholder Requested Special Meetings*.

(i) Any request by Stockholders for a special meeting must be signed by each Stockholder, or a duly authorized agent, requesting such special meeting and include: (A) the specific purpose of the meeting, the matters proposed to be acted on at the meeting and the reasons for conducting such business at the meeting; (B) the name and address of each such Stockholder and the date of signature; (C) the number of shares of capital stock owned of record or beneficially by each such Stockholder; (D) documentary evidence that the requesting Stockholders in the aggregate own the Requisite Percentage, provided that if any of the requesting Stockholders are not the record owners of the shares representing any portion of the Requisite Percentage, then to be valid, the request by Stockholders must also include documentary evidence that any beneficial owners on whose behalf the request is made beneficially own the relevant portion of the Requisite Percentage; (E) all information relating to each such Stockholder that would be required to be disclosed in solicitations of proxies for the election of Directors (even if the election of Directors is not the subject of the special meeting request) or would otherwise be required, in each case pursuant to Section 14 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder (or any successor provision of the Exchange Act or the rules or regulations promulgated thereunder), whether or not Section 14 of the Exchange Act is then applicable to the Corporation; (F) the information required for matters to be properly brought by Stockholders before an Annual Meeting as set forth in Section 1.10 and Section 2.10, as applicable, with respect to any nomination to the Board or other business proposed to be presented at the special meeting and as to the Stockholders requesting the meeting (or the persons on whose behalf the Stockholder is acting, as applicable); (G) a representation that each requesting Stockholder, or one or more representatives of each such stockholder, intends to appear in person or by proxy at the special meeting to present the proposal(s) or business to be brought before the special meeting; and (H) an agreement by the requesting Stockholders to notify the Corporation promptly in the event of any disposition prior to the special meeting of shares of the Corporation owned of record or beneficially owned and an acknowledgement that any such disposition shall be deemed to be a revocation of such special meeting request with respect to such disposed shares. In addition, the requesting Stockholders and the beneficial owners, if any, on whose behalf the special meeting request is being made shall promptly provide any other information reasonably requested by the Corporation.

(ii) Any requesting Stockholder who delivered (and has not revoked) a valid special meeting request shall further update and supplement such request, if necessary, so that the information provided or required to be provided in such request shall be true and correct as of the record date for the determination of Stockholders entitled to vote at the special meeting and as of the date that is 10 business days prior to the special meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received at, the principal executive office of the Corporation not later than five business days after the record date for the determination of Stockholders entitled to vote at the special meeting (in the case of the update and supplement required to be made as of such record date), and not later than eight business days prior to the date for the special meeting and, if practicable (or, if not practicable, on the first practicable date prior to), any adjournment or postponement thereof (in the case of the update and supplement required to be made as of 10 business days prior to the special meeting or any adjournment or postponement thereof).

(iii) A special meeting request shall not be valid (and the Board shall have no obligation to call a special meeting in respect of such special meeting request) if it (A) does not comply with these Bylaws, the Certificate of Incorporation or applicable law; (B) relates to an item of business that is not a proper subject for Stockholder action under these Bylaws, the Certificate of Incorporation or applicable law; (C) is an item of business that is the same or substantially similar to a matter that was presented at a meeting of Stockholders occurring within 90 days preceding the date of the Stockholders' request for a special meeting; (D) relates to an item of business that is the same or substantially similar to a matter included in the Corporation's notice to be brought before a meeting of Stockholders that has been called but not yet held; (E) is delivered during the period commencing 90 days prior to the first anniversary of the previous year's Annual Meeting and ending on the date of the next Annual Meeting; or (F) was made in violation of Regulation 14A under the Exchange Act, to the extent applicable, or other Applicable Laws. For purposes of this Section 1.2(b), the nomination, election or removal of directors shall be deemed to be the same or substantially similar to all items of business involving the nomination, election or removal of directors, changing the size of the Board and filling of vacancies and/or newly created directorships resulting from any increase in the authorized number of directors.

(iv) In determining whether a special meeting of stockholders has been requested by the record holders of shares representing in the aggregate at least the Requisite Percentage, multiple special meeting requests delivered to the Secretary will be considered together only if (i) each special meeting request identifies substantially the same purpose or purposes of the special meeting and substantially the same matters proposed to be acted on at the special meeting (in each case as determined in good faith by the Board) and (ii) such special meeting requests have been dated and delivered to the Secretary within 60 days of the earliest dated special meeting request identifying substantially the same purpose or purposes. Stockholders may revoke the request for a special meeting at any time by written revocation delivered to the Secretary of the Corporation (the "Secretary") and if, following such revocation, there are un-revoked requests from Stockholders owning in the aggregate less than the Requisite Percentage, the Board, in its discretion, may cancel the special meeting. A special meeting request shall be deemed revoked (and any meeting scheduled in response may be canceled) if the Stockholders submitting the special meeting request, and any beneficial owners on whose behalf they are acting, do not continue to own (as defined in Section 2.12) in the aggregate at least the Requisite Percentage at all times between the date the special meeting request is received by the Corporation and the date of the applicable special meeting of Stockholders, and the requesting Stockholder shall promptly notify the Secretary of any decrease in ownership of shares of the Corporation that results in such a revocation. If, as a result of any such revocation, there are no longer valid unrevoked written requests representing the Requisite Percentage, there shall be no requirement to call or hold a special meeting of Stockholders. If none of the requesting Stockholders appears or sends a duly authorized agent to present the business to be presented for consideration that was specified in the relevant special meeting request, the Corporation need not present such business for a vote at such special meeting.

(v) Business transacted at a special meeting requested by Stockholders shall be limited to the purpose stated in such request; provided, however, that the Board shall be able to submit additional matters to Stockholders at any such special meeting.

Section 1.3 Notice of Meetings. By or at the direction of the Chairman of the Board, the Chief Executive Officer or the Secretary, whenever Stockholders are to take any action at a meeting, the Corporation will give a notice of that meeting to the Stockholders of record, as of the record date established pursuant to Section 1.4 for determining Stockholders entitled to notice of that meeting, which notice shall state the date, time and place of the meeting, the means of remote communications, if any, by which Stockholders and proxy holders may be deemed to be present in person and vote at the meeting, the record date for determining the Stockholders entitled to vote at the meeting, if such date is different from the record date for determining Stockholders entitled to notice of the meeting, and, in the case of a special meeting, the purpose or purposes for which that meeting is called. Unless the Certificate of Incorporation, these Bylaws, the DGCL or other Applicable Laws otherwise require, the Corporation will give the notice of any meeting of

Stockholders not less than 10 nor more than 60 days before the date of that meeting. Notice of any meeting of Stockholders need not be given to any Stockholder (a) if waived by such Stockholder in accordance with Section 7.6 or (b) to whom (i) notice of two consecutive Annual Meetings, and all notices of meetings to such person during the period between such two consecutive Annual Meetings, or (ii) all, and at least two, payments (if sent by first-class mail) of dividends or interest on securities during a 12-month period, in either case (i) or (ii) above, have been mailed addressed to such person at such person's address as shown on the records of the Corporation and have been returned as undeliverable; *provided, however*, that the exception in Section 1.3(b)(i) shall not be applicable to any notice given by electronic transmission that is returned as undeliverable. Any action or meeting taken or held without notice to such person shall have the same force and effect as if the notice had been duly given. If any person to whom notice need not be given in accordance with Section 1.3(b) delivers to the Corporation a written notice setting forth such person's then current address, the requirement that notice be given to such person shall be reinstated.

Section 1.4 Fixing Date for Determination of Stockholders of Record. In order that the Corporation may determine the Stockholders entitled to notice of or to vote at any meeting of Stockholders or any adjournment thereof, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board by resolution may fix a record date, which record date: (a) must not precede the date on which the Board adopts the resolution; (b) in the case of a determination of Stockholders entitled to vote at any meeting of Stockholders or adjournment thereof, (i) will, unless Applicable Laws otherwise require, not be more than 60 nor less than 10 days before the date of the meeting and (ii) may, unless Applicable Laws otherwise require, be as of a date that is later than the record date established by the Board pursuant to this Section 1.4 to determine the Stockholders entitled to notice of that meeting; and (c) in the case of any other action, will not be more than 60 days prior to that other action. If the Board does not fix a record date, (1) the record date for determining Stockholders entitled to notice of or to vote at a meeting of Stockholders will be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived in accordance with Section 7.6, at the close of business on the day next preceding the day on which the meeting is held and (2) the record date for determining Stockholders for any other purpose will be at the close of business on the day on which the Board adopts the resolution relating thereto. A determination of Stockholders of record entitled to notice of or to vote at a meeting of Stockholders will apply to any adjournment of that meeting; *provided, however*, that the Board by resolution may fix a new record date for purposes of determining Stockholders entitled to notice of or to vote at the adjourned meeting.

Section 1.5 List of Stockholders Entitled to Vote. At least 10 days before each meeting of Stockholders, the Secretary will prepare a list of the Stockholders entitled to vote at that meeting pursuant to the requirements of section 219 of the DGCL as in effect at that time.

Section 1.6 Adjournments. Any meeting of Stockholders, annual or special, may be adjourned from time to time by (a) the Chairman of the Board or other Director or officer presiding over the meeting or (b) by the Stockholders representing a majority of shares of capital stock present in person or represented by proxy at the meeting and entitled to vote on any matter brought before the meeting, whether or not a quorum is present, to reconvene at the same or some other place, and notice need not be given of any such adjourned meeting if the time and place thereof, and the means of remote communications, if any, by which Stockholders and proxy holders may be deemed to be present and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting the Corporation may transact any business it might have transacted at the original meeting. If the adjournment is for more than 30 days or if, after adjournment the Board fixes a new record date for determining Stockholders entitled to notice of or to vote at the adjourned meeting, the Corporation will give notice of the adjourned meeting to each Stockholder of record (as of the applicable record date for determining Stockholders entitled to notice of the adjourned meeting) in accordance with Section 1.3.

Section 1.7 Quorum. Except as the Certificate of Incorporation, these Bylaws, the DGCL or other Applicable Laws otherwise provide: (a) at each meeting of Stockholders the presence in person or by proxy of the holders of shares of stock having a majority of the voting power of all outstanding shares of capital stock of the Corporation entitled to vote at the meeting will be necessary and sufficient to constitute a quorum; and (b) the holders of capital stock of the Corporation so present and entitled to vote at any duly convened meeting at which the necessary quorum has been ascertained may continue to transact business until that meeting adjourns notwithstanding any withdrawal from that meeting of shares of capital stock counted in determining the existence of that quorum. Any shares held in the street name for which voting instructions have not been received from the beneficial owner and for which the broker does not have discretionary authority to vote ("Broker non-votes") shall be considered present at the meeting for purposes of the determination of a quorum. In the absence of a quorum, the meeting may be adjourned from time to time in the manner provided in Section 1.6 until a quorum is present either in person or by proxy. Shares of the Corporation's capital stock held in treasury by the Corporation or by another corporation, limited liability company, partnership or other entity in which the Corporation, directly or indirectly, holds a majority of the shares entitled to vote in the election of Directors (or the equivalent), will be neither entitled to vote nor counted for quorum purposes; *provided, however*, that the foregoing will not limit the right of the Corporation to vote shares of capital stock, including but not limited to its own capital stock, it holds in a fiduciary capacity.

Section 1.8 Organization. The Chairman of the Board will chair and preside over any meeting of Stockholders at which he or she is present. The Board will designate a Director or an officer of the Corporation to preside over any meeting of Stockholders from which the Chairman of the Board is absent. In the absence of such designation by the Board, the Chief Executive Officer will preside over any such meeting. The Secretary will act as secretary of meetings of Stockholders, but in his or her absence from any such meeting, the Chairman of the Board or other Director or officer presiding over that meeting may appoint any person to act as secretary of that meeting.

Section 1.9 Voting by Stockholders

(a) *Voting on Matters Other than the Election of Directors*. With respect to any matters as to which no other voting requirement is specified by the Certificate of Incorporation, these Bylaws, the DGCL or other Applicable Laws, or any policy or position statement adopted by the Board that is not inconsistent with any of the foregoing, the affirmative vote required for Stockholder action at a meeting at which a quorum is present shall be that of a majority of the shares present in person or represented by proxy at the meeting and entitled to vote on the matter (including shares subject to Broker non-votes). In the case of a matter submitted for a vote of the Stockholders as to which a Stockholder approval requirement is applicable under the Stockholder approval policy of any stock exchange or quotation system on which the capital stock of the Corporation is traded or quoted, the requirements (to the extent applicable to the Corporation) of Rule 16b-3 under the Exchange Act, or any provision of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code"), in each case for which no higher voting requirement is specified by the DGCL, the Certificate of Incorporation or these Bylaws, the vote required for approval shall be the requisite vote specified in such Stockholder approval policy, Rule 16b-3 or Internal Revenue Code provision, as the case may be (or the highest such requirement if more than one is applicable). For the approval or ratification of the appointment of independent public accountants (if submitted for a vote of the Stockholders) or the approval of any other matter recommended for approval to the Stockholders by the Board and for which no other voting requirement is specified by the Certificate of Incorporation, these Bylaws, the DGCL or other Applicable Laws or any policy or position statement adopted by the Board that is not inconsistent with any of the foregoing, including with respect to the compensation of executives and any advisory vote regarding executive compensation, the vote required for approval shall be the affirmative vote of a majority of the votes cast "for" or "against" by the Stockholders entitled to vote on the matter at a meeting of Stockholders at which a quorum is present. For purposes of these Bylaws, any shares subject to Broker non-votes and abstentions shall not be considered as votes cast.

(b) *Voting in the Election of Directors*. Each Director shall be elected by the affirmative vote of a majority of the votes cast by the Stockholders entitled to vote with respect to that Director's election at any meeting for the election of Directors at which a quorum is present, provided that if, as of the 10th day preceding the date the Corporation first mails its notice for such meeting to Stockholders, the number of nominees exceeds the number of Directors to be elected (a "Contested Election"), the Directors shall be elected by the vote of a plurality of the votes cast by Stockholders entitled to vote in the election of Directors at such meeting of Stockholders at which a quorum is present. If, in an election that is not a Contested Election, a Director does not receive a majority of the votes cast, such Director shall submit an irrevocable resignation to the Corporate Governance and Nominating Committee of the Board, or such other committee as may be designated by the Board pursuant to these Bylaws. Such committee shall make a recommendation to the Board as to whether to accept or reject the resignation of such incumbent Director, or whether other action should be taken. The Board shall act on the resignation, taking into account the committee's recommendation, and within 90 days following certification of the election results shall publicly disclose its decision regarding the resignation and, if such resignation is rejected, the rationale behind the decision. The committee in making its recommendation and the Board in making its decision each may consider any factors and other information that they consider appropriate and relevant. If the Board accepts a Director's resignation pursuant to this Section 1.9(b), or if a nominee for Director is not elected and the nominee is not an incumbent Director, then the Board may fill the resulting vacancy pursuant to Section 2.1(f) of these Bylaws. For purposes of this Section 1.9(b), any shares subject to Broker non-votes and abstentions shall not be considered as votes cast.

Section 1.10 Business to be Conducted at Meetings

(a) *Annual Meetings*. At an Annual Meeting, only such business shall be conducted, and only such proposals shall be acted upon, as shall have been properly brought before such Annual Meeting. To be properly brought before an Annual Meeting, business or proposals (other than any nomination of Directors, which is governed by Section 2.10 and Section 2.12) must (i) be specified in the notice relating to the meeting (or any supplement thereto) given by or at the direction of the Board in accordance with Section 1.3 or (ii) be properly brought before the meeting by a Stockholder who (A) is a Stockholder of record at the time of the giving of notice of the proposal in accordance with this Section 1.10 and on the record date for the determination of Stockholders entitled to vote at such Annual Meeting, (B) is entitled to vote at the Annual Meeting and (C) complies with the requirements of this Section 1.10, the DGCL and other Applicable Laws. Notwithstanding anything to the contrary in these Bylaws, only proposals that are proper subjects for Stockholder action may properly be introduced at an Annual Meeting. Clause (ii) of this Section 1.10(a) shall be the exclusive means for a Stockholder to submit business or proposals (other than Director nominations, which are governed by Section 2.10 and Section 2.12) before an Annual Meeting. For a proposal to properly be brought before an Annual Meeting by a Stockholder pursuant to these provisions, in addition to any other applicable requirements, such Stockholder must give timely advance notice thereof in writing to the Secretary. To be timely, such Stockholder’s notice must be delivered to, or mailed and received at, the principal executive office of the Corporation not later than the close of business on the 90th day and not earlier than the close of business on the 120th day prior to the first anniversary of the date on which the Corporation first mailed proxy materials for the immediately preceding Annual Meeting to Stockholders; *provided, however*, that if the scheduled Annual Meeting date differs from the first anniversary date of the immediately preceding Annual Meeting by more than 30 days, notice by such Stockholder, to be timely, must be so delivered or received not later than the close of business on the 90th day prior to the scheduled date of the Annual Meeting or, if less than 100 days’ prior notice or public disclosure of the scheduled meeting date is given or made, not later than the 10th day following the earlier of the date on which the notice of such meeting was mailed to Stockholders or the date on which such public disclosure was made. In no event shall any adjournment, postponement or deferral of an Annual Meeting or the announcement thereof commence a new time period for the giving of a Stockholder’s notice as described above.

(b) *Form of Stockholder Proposals*. Any Stockholder’s notice to the Secretary of business proposed to be brought before an Annual Meeting as contemplated by Section 1.10(a) shall set forth in writing as to each matter such Stockholder proposes to bring before the Annual Meeting: (i) a description of the proposal desired to be brought before the meeting and the reasons for conducting such business at the meeting, together with the text of the proposal or business (including the text of any resolutions proposed for consideration); (ii) as to such Stockholder proposing such business and the beneficial owner, if any, on whose behalf the proposal is made, (A) the name and address of such Stockholder, as it appears on the Corporation’s books, and of such beneficial owner, if any, and the name and address of any other Stockholders known by such Stockholder to be supporting such business or proposal, (B)(1) the class or series and number of shares of capital stock of the Corporation which are, directly or indirectly, owned beneficially and of record by such Stockholder and such beneficial owner, (2) any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of capital stock of the Corporation or with a value derived in whole or in part from the price, value or volatility of any class or series of shares of capital stock of the Corporation or any derivative or synthetic arrangement having characteristics of a long position in any class or series of shares of capital stock of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of the Corporation or otherwise (a "Derivative Instrument") directly or indirectly owned beneficially by such Stockholder and by such beneficial owner and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of capital stock of the Corporation, (3) any proxy, contract, arrangement, understanding or relationship, the effect or intent of which is to increase or decrease the voting power of such Stockholder or beneficial owner with respect to any shares of any security of the Corporation, (4) any pledge by such Stockholder or beneficial owner of any security of the Corporation or any short interest of such Stockholder or beneficial owner in any security of the Corporation (for purposes of this Section 1.10 and Section 2.10, a person shall be deemed to have a short interest in a security if such person directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has the opportunity to profit or share in any profit derived from any decrease in the value of the subject security), (5) any rights to dividends on the shares of capital stock of the Corporation owned beneficially by such Stockholder and by such beneficial owner that are separated or separable from the underlying shares of capital stock of the Corporation, (6) any proportionate interest in shares of capital stock of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such Stockholder or beneficial owner is a general partner or, directly or indirectly, beneficially owns an interest in a general partner and (7) any performance-related fees (other than an asset-based fee), to which such Stockholder or beneficial owner is entitled based on any increase or decrease in the value of shares of capital stock of the Corporation or Derivative Instruments, if any, as of the date of such notice, including, without limitation, for purposes of clauses (B)(1) through (B)(7) above, any of the foregoing held by members of such Stockholder's or beneficial owner's immediate family sharing the same household or held by any other Stockholders or beneficial owners acting in concert with such Stockholder or beneficial owner (which information shall be supplemented by such Stockholder and beneficial owner, if any, not later than 10 days after the record date for the determination of Stockholders entitled to vote at the meeting, to disclose such ownership as of such record date) and (C) any other information relating to such Stockholder and beneficial owner, if any, that would be required to be disclosed in solicitations of proxies for the proposal, or would otherwise be required, in each case pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder; (iii) any material interest of such Stockholder and beneficial owner, if any, in such business or proposal; and (iv) a description of all agreements, arrangements and understandings between such Stockholder and beneficial owner, if any, and any other person or persons (including their names) in connection with such business or proposal by such Stockholder.

(c) *Duty to Update Information*. A Stockholder providing notice of business proposed to be brought before an Annual Meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 1.10 shall be true and correct as of the record date for the determination of Stockholders entitled to vote at the meeting and as of the date that is 10 business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received at, the principal executive office of the Corporation not later than five business days after the record date for the determination of Stockholders entitled to vote at the meeting (in the case of the update and supplement required to be made as of such record date), and not later than eight business days prior to the date for the meeting and, if practicable (or, if not practicable, on the first practicable date prior to), any adjournment or postponement thereof (in the case of the update and supplement required to be made as of 10 business days prior to the meeting or any adjournment or postponement thereof). In addition, a Stockholder providing notice of business proposed to be brought before an Annual Meeting shall update and supplement such notice, and deliver such update and supplement to the principal executive office of the Corporation, promptly following the occurrence of any event that materially changes the information provided or required to be provided in such notice pursuant to this Section 1.10.

(d) *Chairman of the Board to Determine Whether Requirements Have Been Met*. The Chairman of the Board or, if the Chairman of the Board is not presiding, the Director or officer presiding over the meeting of Stockholders shall determine whether the requirements of this Section 1.10 have been met with respect to any Stockholder proposal. If the Chairman of the Board or the other Director or officer presiding over such meeting determines that any Stockholder proposal was not made in accordance with the terms of this Section 1.10, he or she shall so declare at the meeting and any such proposal shall not be acted upon at the meeting.

(e) *Special Meetings*. At a special meeting of Stockholders, only such business shall be conducted, and only such proposals shall be acted upon, as shall have been specified as the purpose of calling the special meeting or otherwise properly brought before such special meeting. To be properly brought before such a special meeting, business or proposals must (i) be specified in the notice relating to the meeting (or any supplement thereto) given by or at the direction of the Board in accordance with Section 1.3 or (ii) constitute matters incident to the conduct of the meeting as the Chairman of the Board or the other Director or officer presiding over such meeting of the meeting shall determine to be appropriate. Notwithstanding any other provision of these Bylaws, in the case of a special meeting requested by Stockholders pursuant to Section 1.2, no Stockholder may nominate a person for election to the Board or propose any business to be considered at the meeting, except pursuant to the request for such special meeting pursuant to Section 1.2.

(f) *Additional Requirements*. In addition to the foregoing provisions of this Section 1.10, a Stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder, to the extent such requirements apply to the Corporation, with respect to the matters set forth in this Section 1.10. Nothing in this Section 1.10 shall be deemed to affect any rights of Stockholders to request inclusion of proposals in the Corporation's proxy statement as required by Rule 14a-8 under the Exchange Act, to the extent such rule applies to the Corporation.

Section 1.11 Proxies. Each Stockholder entitled to vote at a meeting of Stockholders may authorize another person or persons to act for such Stockholder by proxy duly granted and authorized under the DGCL and other Applicable Laws. Proxies for use at any meeting of Stockholders shall be filed with the Secretary, or such other officer as the Board may from time to time determine by resolution to act as secretary of the meeting, before or at the time of the meeting. All proxies shall be received and taken charge of and all ballots shall be received and canvassed by the secretary of the meeting, who shall decide all questions relating to the qualification of voters, the validity of the proxies and the acceptance or rejection of votes, unless a different inspector or inspectors shall have been appointed by the Chairman of the Board or other Director or officer presiding over the meeting, in which event such inspector or inspectors shall decide all such questions.

Section 1.12 Conduct of Meetings. The Board may adopt by resolution such rules and regulations for the conduct of meetings of Stockholders as it deems appropriate. Except to the extent inconsistent with such rules and regulations, if any, the Chairman of the Board or other Director or officer presiding over any meeting of Stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of the Chairman of the Board or other Director or officer presiding over the meeting, are appropriate for the proper conduct of that meeting. Such rules, regulations or procedures whether adopted by the Board or prescribed by the Chairman of the Board or other Director or officer presiding over the meeting may include, without limitation, the following: (a) the establishment of an agenda or order of business for the meeting; (b) the determination of when the polls shall open and close for any given matter to be voted on at the meeting; (c) rules and procedures for maintaining order at the meeting and the safety of those present; (d) limitations on attendance at or participation in the meeting to Stockholders of record, their duly authorized and constituted proxies or such other persons as the Chairman of the Board or other Director or officer presiding over the meeting may determine; (e) restrictions on entry to the meeting after the time fixed for the commencement thereof; (f) limitations on the time allotted to questions or comments by participants; and (g) policies and procedures with respect to the adjournment of such meetings. Except to the extent the Board or the Chairman of the Board or other Director or officer presiding over any meeting otherwise prescribes, no rules of parliamentary procedure will govern any meeting of Stockholders.

ARTICLE II
BOARD OF DIRECTORS

Section 2.1 Powers, Number, Qualifications, Classification and Vacancies

(a) *Powers of the Board of Directors*. The powers of the Corporation shall be exercised by or under the authority of, and the business and affairs of the Corporation shall be managed by or under the direction of, the Board. In addition to the authority and powers conferred upon the Board by the DGCL, the Certificate of Incorporation or these Bylaws, the Board is hereby authorized and empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, subject to the provisions of the DGCL, the Certificate of Incorporation and these Bylaws; *provided, however*, that no Bylaw of the Corporation hereafter adopted, nor any amendment thereto, shall invalidate any prior act of the Board that would have been valid if such Bylaw or amendment thereto had not been adopted.

(b) *Management*. The Board shall have the right (which, to the extent exercised, shall be exclusive) to establish the rights, powers, duties, rules and procedures, consistent with the Certificate of Incorporation, these Bylaws and the DGCL, that (i) from time to time shall govern the Board, including, without limiting the generality of the foregoing, the vote required for any action by the Board and (ii) from time to time shall affect the Directors' power to manage the business and affairs of the Corporation.

(c) *Number of Directors*. Within the limits specified in the Certificate of Incorporation, and subject to such rights, if any, of holders of shares of one or more outstanding series of preferred stock of the Corporation to elect one or more Directors as provided by the Certificate of Designation for such series of preferred stock, the number of Directors which will constitute the whole Board shall be fixed from time to time exclusively by, and may be increased or decreased from time to time exclusively by, the affirmative vote of a majority of the Directors then in office.

(d) *Qualifications*. Directors must be natural persons. Directors need not be residents of the State of Delaware or Stockholders. No person shall stand for election or re-election, or be nominated to stand for election or re-election, to the Board if such person has attained or will attain the age of 72 prior to the date of election or re-election. Any Director elected or re-elected who attains the age of 72 during a term to which he or she was elected or re-elected shall continue to serve for the expiration of his or her term or until his or her earlier death, resignation or removal. At no time shall more than a minority of the number of Directors necessary to constitute a quorum at a meeting of Directors be persons who are not U.S. citizens. In the event that the number of Directors who are not U.S. citizens exceeds such permitted number, it is expected that one or more Directors (whichever number is required to be removed) who are not U.S. citizens will resign from the Board in reverse order of seniority based on such Directors' length of service on the Board (with the Director who is not a U.S. citizen and has served on the Board the least amount of time resigning first) to reduce the number of Directors who are not U.S. citizens to a number permitted under this Section 2.1(d). Any resulting vacancies on the Board shall be filled in accordance with Section 2.1(f).

(e) *Classification and Terms of Directors*. As provided in the Certificate of Incorporation, the Directors, other than those, if any, who may be elected by the holders of any series of preferred stock of the Corporation pursuant to the Certificate of Designation for such series of preferred stock, shall be divided into three classes as nearly equal in size as is practicable: Class I, Class II and Class III. Each Director will serve for a three year term expiring on the date of the third Annual Meeting following the Annual Meeting at which that Director was elected. Each Director will hold office until the Annual Meeting at which that Director's term expires and, the foregoing notwithstanding, until his or her successor shall have been duly elected and qualified or until his or her earlier death, resignation or removal. Any Director elected by the holders of a series of preferred stock of the Corporation will be elected for the term set forth in the Certificate of Designation for such series of preferred stock. At each annual election, the Directors chosen to succeed those whose terms then expire shall be of the same class as the Directors they succeed unless the Board shall have designated one or more directorships whose term then expires as directorships of another class in order to more nearly achieve equality of number of Directors among the classes.

(f) *Vacancies*. Unless otherwise provided by or pursuant to the Certificate of Incorporation, newly created directorships resulting from any increase in the number of Directors, and any vacancies on the Board resulting from death, resignation, removal or other cause, will be filled only by the affirmative vote of a majority of the Directors remaining in office, even if they constitute less than a quorum of the Board, or by the sole remaining Director if only one Director remains in office. Any Director elected in accordance with the preceding sentence will hold office for the remainder of the full term of the class of Directors in which the new directorship was created or the vacancy occurred, and until such Director's successor shall have been duly elected and qualified or until his or her earlier death, resignation or removal. Unless otherwise provided by or pursuant to the Certificate of Incorporation, no decrease in the number of Directors constituting the Board shall shorten the term of any incumbent Director.

Section 2.2 Regular Meetings. The Board will hold its regular meetings at such places within or without the State of Delaware, on such dates and at such times as the Board by resolution may determine from time to time, and any such resolution will constitute due notice to all Directors of the regular meeting or meetings to which it relates. By notice pursuant to Section 2.7, the Chairman of the Board or a majority of the Directors then in office may change the place, date or time of any regular meeting of the Board.

Section 2.3 Special Meetings. The Board will hold a special meeting at any place within or without the State of Delaware and on any date and at any time such a meeting is called by the Chairman of the Board or by a majority of the Directors then in office by giving notice of such special meeting in accordance with Section 2.7.

Section 2.4 Telephonic Meetings. Members of the Board may hold and participate in any Board meeting by means of conference telephone or other communications equipment that permits all persons participating in the meeting to hear each other, and participation of any Director in a meeting by such means will constitute the presence in person of that Director at such meeting for all purposes of these Bylaws, except in the case of a Director who so participates only for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business at such meeting on the ground that the meeting has not been called or convened in accordance with the Certificate of Incorporation, these Bylaws, the DGCL or other Applicable Laws.

Section 2.5 Organization. The Chairman of the Board will chair and preside over meetings of the Board at which he or she is present. A majority of the Directors present at any meeting of the Board from which the Chairman of the Board is absent will designate one of their number as the chair of that meeting. The Secretary will act as secretary of meetings of the Board, but in his or her absence from any such meeting the chair of that meeting may appoint any person to act as secretary of that meeting.

Section 2.6 Order of Business. The Board will transact business at its meetings in such order as the Chairman of the Board or the Board may determine.

Section 2.7 Notice of Meetings. To call a special meeting of the Board, the Chairman of the Board or a majority of Directors then in office must give a timely notice to all of the Directors then in office of the time and place of, and the general nature of the business to be transacted at, such special meeting. The notice must be in writing or in an electronic transmission and if given by the majority of the Directors then in office, must be executed by each Director calling the meeting. To change the time or place of any regular meeting of the Board, the Chairman of the Board or a majority of the Directors then in office must give a timely notice to each Director of that change. To be timely, any notice required by this Section 2.7 must be delivered to each Director personally or by mail, facsimile, e-mail or other communication at least one day before the meeting to which it relates; *provided*, *however*, that notice of any meeting of the Board need not be given to any Director who waives the requirement of that notice in accordance with Section 7.6(b).

Section 2.8 Quorum; Vote Required for Action. At all meetings of the Board, the presence in person of a majority of the Directors then in office will constitute a quorum for the transaction of business, and the participation by a Director in any meeting of the Board will constitute that Director's presence in person at that meeting unless that Director expressly limits that participation to objecting, at the beginning of the meeting, to the transaction of any business at that meeting on the ground that the meeting has not been called or convened in accordance with the DGCL, other Applicable Laws, the Certificate of Incorporation or these Bylaws. Except in cases in which the Certificate of Incorporation or these Bylaws otherwise provide, the vote of a majority of the Directors present at a meeting at which a quorum is present will be the act of the Board.

Section 2.9 Board Action by Unanimous Written Consent in Lieu of Meeting. The Board, without a meeting, prior notice or a vote, may take any action it must or may take at any meeting, if all Directors then in office consent to such action in writing or by electronic transmission, and the written consents or electronic transmissions are filed with the minutes of proceedings of the Board that the Secretary is to keep.

Section 2.10 Nomination of Directors; Qualifications

(a) *Director Nominations*. Subject to such rights, if any, of holders of shares of one or more outstanding series of preferred stock of the Corporation to elect one or more Directors under circumstances as shall be provided by or pursuant to the Certificate of Incorporation, only persons who are nominated in accordance with the procedures set forth in this Section 2.10 or Section 2.12 shall be eligible for election as, and to serve as, Directors. Nominations of persons for election to the Board at any Annual Meeting or special meeting of the Stockholders in lieu of an Annual Meeting for which Directors are to be elected may be made only by (i) the Board or at the direction of the Board or (ii) any Stockholder who is a Stockholder of record at the time of the giving of such Stockholder's notice provided for in this Section 2.10 and on the record date for the determination of Stockholders entitled to vote at such meeting, who is entitled to vote at such meeting in the election of Directors and who complies with the requirements of this Section 2.10 or pursuant to Section 2.12. Subject to Section 2.12, clause (ii) of this Section 2.10(a) shall be the exclusive means for a Stockholder to make any nomination of a person or persons for election as a Director. Any such nomination by a Stockholder shall be preceded by timely advance notice in writing to the Secretary pursuant to this Section 2.10 or Section 2.12.

(b) *Timeliness of Stockholder Nominations*. To be timely with respect to an Annual Meeting, notice of any Stockholder's nomination made pursuant to this Section 2.10 must be delivered to, or mailed and received by, the Secretary at the principal executive office of the Corporation not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the first anniversary of the date on which the Corporation first mailed proxy materials for the immediately preceding Annual Meeting to Stockholders; *provided, however*, that (i) if the scheduled date of the Annual Meeting for which the nomination is to be considered differs from the first anniversary date of the immediately preceding Annual Meeting by more than 30 days, notice by such Stockholder, to be timely, must be so delivered or received not later than the close of business on the 90th day prior to the scheduled date of the Annual Meeting or, if less than 100 days' prior notice or public disclosure of the scheduled meeting date is given or made, not later than the 10th day following the earlier of the day on which the notice of such meeting was mailed to Stockholders or the day on which such public disclosure was made; and (ii) if the number of Directors to be elected to the Board at such Annual Meeting is increased and there is no prior notice or public disclosure by the Corporation naming all of the nominees for Director or specifying the size of the increased Board at least 100 days prior to such anniversary date, a Stockholder's notice required by this Section 2.10 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if delivered to the principal executive office of the Corporation not later than the close of business on the 10th day following the earlier of the day on which the notice of such meeting was mailed to Stockholders or the day on which such public disclosure was made. To be timely with respect to a special meeting at which Directors are to be elected, notice of any Stockholder's nomination made pursuant to this Section 2.10 must be delivered to, or mailed and received by, the Secretary at the principal executive office of the Corporation not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the scheduled special meeting date; provided, however, that if less than 100 days' prior notice or public disclosure of the scheduled meeting date is given or made, notice by such Stockholder, to be timely, must be so delivered or received not later than the close of business on the 10th day following the earlier of the day on which the notice of such meeting was mailed to Stockholders or the day on which such public disclosure was made. In no event shall any adjournment, postponement or deferral of an Annual Meeting or special meeting or the announcement thereof commence a new time period for the giving of a Stockholder's notice as described above.

(c) *Form of Stockholder's Notice of Nominations*. Notice of a Stockholder's nomination delivered to the Secretary in accordance with this Section 2.10 shall set forth (i) as to each person whom such Stockholder proposes to nominate for election or re-election as a Director, (A) the name, age, country of citizenship, business address and residence address of such person, (B) the principal occupation or employment of such person, (C) any other information relating to such person that would be required to be disclosed in solicitations of proxies for election of Directors in a contested election, or would otherwise be required, in each case pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder (including, without limitation, the written consent of such person to having such person's name placed in nomination at the meeting and to serve as a Director if elected), and (D) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among such Stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is made, and their respective affiliates and associates, or others acting in concert therewith, on the one hand, and each proposed nominee, and his or her respective affiliates and associates, or others acting in concert therewith, on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Rule 404 promulgated under Regulation S-K if such Stockholder and such beneficial owner, or any affiliate or associate thereof or person acting in concert therewith, were the "registrant" for purposes of such rule and the nominee were a director or executive officer of such registrant; and (ii) as to such Stockholder giving the notice, the beneficial owner, if any, on whose behalf the nomination is made and the proposed nominee, (A) the name and address of such Stockholder, as they appear on the Corporation's books, and of such beneficial owner, if any, and the name and address of any other Stockholders known by such Stockholder to be supporting such nomination, (B)(1) the class or series and number of shares of capital stock of the Corporation which are, directly or indirectly, owned beneficially and of record by such Stockholder, such beneficial owner and such nominee, (2) any Derivative Instrument directly or indirectly owned beneficially by such Stockholder, such beneficial owner and such nominee and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of capital stock of the Corporation, (3) any proxy, contract, arrangement, understanding or relationship the effect or intent of which is to increase or decrease the voting power of such Stockholder, beneficial owner or nominee with respect to any shares of any security of the Corporation, (4) any pledge by such Stockholder, beneficial owner or nominee of any security of the Corporation or any short interest of such Stockholder, beneficial owner or nominee in any security of the Corporation, (5) any rights to dividends on the shares of capital stock of the Corporation owned beneficially by such Stockholder, beneficial owner and nominee that are separated or separable from the underlying shares of capital stock of the Corporation, (6) any proportionate interest in shares of capital stock of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such Stockholder, beneficial owner or nominee is a general partner or, directly or indirectly, beneficially owns an interest in a general partner and (7) any performance-related fees (other than an asset-based fee) to which such Stockholder, beneficial owner or nominee is entitled based on any increase or decrease in the value of shares of capital stock of the Corporation or Derivative Instruments, if any, as of the date of such notice, including, without limitation, for purposes of clauses (B)(1) through (B)(7) above, any of the foregoing held by members of such Stockholder's, beneficial owner's or nominee's immediate family sharing the same household or held by any other Stockholders or beneficial owners with whom such Stockholder, beneficial owner or nominee is acting in concert (which information shall be supplemented by such Stockholder, beneficial owner, if any, and nominee not later than 10 days after the record date for the determination of Stockholders entitled to vote at the meeting to disclose such ownership as of such record date), and (C) any other information relating to such Stockholder, beneficial owner, if any, and nominee that would be required to be disclosed in solicitations of proxies for election of Directors in a contested election, or would otherwise be required, in each case pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder. Any such Stockholder's notice to the Secretary shall also include or be accompanied by, with respect to each nominee for election or reelection to the Board, a completed and signed questionnaire, representation and agreement required by Section 2.10(e). The Corporation may require any proposed nominee to furnish such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent Director or that could be material to a reasonable Stockholder's understanding of the independence, or lack thereof, of such nominee.

(d) *Duty to Update Information*. A Stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to Section 2.10(c) shall be true and correct as of the record date for the determination of Stockholders entitled to vote at the meeting and as of the date that is 10 business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received at, the principal executive office of the Corporation not later than five business days after the record date for the determination of Stockholders entitled to vote at the meeting (in the case of the update and supplement required to be made as of such record date), and not later than eight business days prior to the date for the meeting and, if practicable (or, if not practicable, on the first practicable date prior to), any adjournment or postponement thereof (in the case of the update and supplement required to be made as of 10 business days prior to the meeting or any adjournment or postponement thereof). In addition, following the occurrence of any event that materially changes the information provided or required to be provided in such notice pursuant to this Section 2.10, a Stockholder that has provided notice of any nomination proposed to be made at a meeting, within 10 days after such event and in any event prior to that meeting, shall deliver an updated and supplemented notice to the Secretary.

(e) *Nominee Requirements*. To be eligible to be a nominee for election or reelection as a Director pursuant to this Section 2.10, a person must meet all of the qualifications to serve as a Director as set forth in these Bylaws, the DGCL or other Applicable Laws and deliver (in accordance with the time periods prescribed for delivery of notice under Section 2.10(b)) to the Secretary at the principal executive office of the Corporation a written questionnaire with respect to the background and qualification of such person and the background of any other person or entity on whose behalf the nomination is being made (which questionnaire shall be in the form provided by the Secretary upon written request) and a written representation and agreement (in the form provided by the Secretary upon written request) that such person (A) is not and will not become a party to (1) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a Director, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (2) any Voting Commitment that could limit or interfere with such person's ability to comply, if elected as a Director, with such person's fiduciary duties under the DGCL or other Applicable Laws, (B) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a Director that has not been disclosed therein, and (C) in such person's individual capacity and on behalf of any person or entity on whose behalf the nomination is being made, would be in compliance, if elected as a Director, and will comply with all applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(f) *Chairman of the Board to Determine Whether Requirements and Qualifications Have Been Met*. The Chairman of the Board or, if he or she is not presiding, the Director or officer presiding over the meeting of Stockholders shall determine whether or not any person nominated to serve as a Director meets the qualifications set forth in these Bylaws, the DGCL or other Applicable Laws and whether or not the requirements of this Section 2.10 have been met with respect to any nomination or purported nomination. If the Chairman of the Board or the other Director or officer presiding over such meeting determines that any purported nomination was not made in accordance with the requirements of this Section 2.10, or that the person so nominated is not qualified to serve as a Director, the Chairman of the Board or such presiding Director or officer shall so declare at the meeting and the defective nomination shall be disregarded.

Section 2.11 Compensation. Unless otherwise restricted by the DGCL or other Applicable Laws, the Board shall have the authority to fix the compensation of the Directors. The Directors may be paid their expenses, if any, of attendance at each meeting of the Board and may be paid a fixed sum for attendance at each meeting of the Board or a stated salary or other compensation as a Director. No such payment shall preclude any Director from serving the Corporation in any other capacity and receiving compensation therefor. Members of special or standing Board Committees may also be paid their expenses, if any, and an additional sum, salary or other compensation for attending Board Committee meetings.

Section 2.12 Proxy Access. Subject to the terms and conditions set forth in these Bylaws, the Corporation shall include in its proxy materials for an Annual Meeting, provided that the Board has determined that Directors shall be elected at such a meeting, the name, together with the Required Information (as defined below), of any person nominated for election (the "Stockholder Nominee") to the Board by a Stockholder or group of Stockholders that satisfy the requirements of this Section 2.12, including qualifying as an Eligible Stockholder (as defined in Section 2.12(d)), and expressly elects at the time of providing the written notice required by this Section 2.12 (a "Proxy Access Notice") to have its or their nominee included in the Corporation's proxy materials pursuant to this Section 2.12. For purposes of this Section 2.12:

"Voting Stock" shall mean outstanding shares of capital stock of the Corporation entitled to vote generally for the election of Directors;

"Constituent Holder" shall mean any Stockholder, collective investment fund included within a Qualifying Fund (as defined in Section 2.12(d)) or beneficial holder whose stock ownership is counted for the purposes of qualifying as holding the Proxy Access Request Required Shares (as defined in Section 2.12(d)) or qualifying as an Eligible Stockholder (as defined in Section 2.12(d)); and

"affiliate" and "associate" shall have the meanings ascribed thereto in Rule 405 under the Securities Act of 1933, as amended; provided, however, that the term "partner" as used in the definition of "associate" shall not include any limited partner that is not involved in the management of the relevant partnership.

For purposes of Section 1.2 and this Section 2.12, a Stockholder (including any Constituent Holder) shall be deemed to "own" only those outstanding shares of Voting Stock as to which the Stockholder itself (or such Constituent Holder itself) possesses both (i) the full voting and investment rights pertaining to the shares and (ii) the full economic interest in (including the opportunity for profit and risk of loss on) such shares. The number of shares calculated in accordance with the foregoing clauses (i) and (ii) shall be deemed not to include (and to the extent any of the following arrangements have been entered into by affiliates of the Stockholder (or of any Constituent Holder), shall be reduced by) any shares (A) sold by such Stockholder or Constituent Holder (or any of either's affiliates) in any transaction that has not been settled or closed, including any short sale, (B) borrowed by such Stockholder or Constituent Holder (or any of either's affiliates) for any purposes or purchased by such Stockholder or Constituent Holder (or any of either's affiliates) pursuant to an agreement to resell or (C) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such Stockholder or Constituent Holder (or any of either's affiliates), whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of Voting Stock, in any such case which instrument or agreement has, or is intended to have, or if exercised by either party thereto would have, the purpose or effect of (1) reducing in any manner, to any extent or at any time in the future, such Stockholder's or Constituent Holder's (or either's affiliate's) full right to vote or direct the voting of any such shares, and/or (2) hedging, offsetting or altering to any degree gain or loss arising from the full economic ownership of such shares by such Stockholder or Constituent Holder (or either's affiliate), other than any such arrangements solely involving an exchange listed multi-industry market index fund in which Voting Stock represents at the time of entry into such arrangement less than 10% of the proportionate value of such index. A Stockholder (including any Constituent Holder) shall "own" shares held in the name of a nominee or other intermediary so long as the stockholder itself (or such Constituent Holder itself) retains the right to instruct how the shares are voted with respect to the election of Directors and the right to direct the disposition thereof and possesses the full economic interest in the shares. A Stockholder's (including any Constituent Holder's) ownership of shares shall be deemed to continue during any period in which such person has loaned such shares so long as such person has retained the power to recall such shares at any time by the Stockholder upon giving requisite notice or delegated any voting power over such shares by means of a proxy, power of attorney or other instrument or arrangement which in all such cases of such proxy, power of attorney or other instrument or arrangement is revocable at any time by the Stockholder. The terms "owned," "owning" and other variations of the word "own" shall have correlative meanings.

(a) For purposes of this Section 2.12, the "Required Information" that the Corporation will include in its proxy statement is (i) the information concerning the Stockholder Nominee and the Eligible Stockholder that the Corporation determines is required to be disclosed in the Corporation's proxy statement by the rules and regulations promulgated under the Exchange Act, the DGCL or other Applicable Laws; and (ii) if the Eligible Stockholder so elects, a Statement (as defined in Section 2.12(g)). The Corporation shall also include the name of the Stockholder Nominee in its proxy card. For the avoidance of doubt, and any other provision of these Bylaws notwithstanding, the Corporation may in its sole discretion solicit against, and include in the proxy statement its own statements or other information relating to, any Eligible Stockholder and/or Stockholder Nominee, including any information provided to the Corporation with respect to the foregoing.

(b) To be timely, a Stockholder's Proxy Access Notice must be delivered to, or mailed and received by, the Secretary at the principal executive office of the Corporation not earlier than the close of business on the 150th day and not later than the close of business on the 120th day prior to the first anniversary of the date on which the Corporation first mailed proxy materials for the immediately preceding Annual Meeting to Stockholders. In no event shall any adjournment or postponement of an Annual Meeting, the date of which has been announced by the Corporation, commence a new time period for the giving of a Proxy Access Notice.

(c) The number of Stockholder Nominees (including Stockholder Nominees that were submitted by an Eligible Stockholder for inclusion in the Corporation's proxy materials pursuant to this Section 2.12 but either are subsequently withdrawn or that the Board decides to nominate as Board nominees) appearing in the Corporation's proxy materials with respect to such Annual Meeting shall not exceed the greater of (x) two and (y) the largest whole number that does not exceed 20% of the number of Directors in office as of the last day on which a Proxy Access Notice may be delivered in accordance with the procedures set forth in this Section 2.12 (such greater number, the "Permitted Number"); provided, however, that the Permitted Number shall be reduced by:

(i) the number of such Director candidates for which the Corporation shall have received one or more Stockholder notices nominating Director candidates pursuant to Section 2.10 of these Bylaws plus the number of directors in office that were elected to the Board after being nominated at any of the two preceding Annual Meetings pursuant to such Section 2.10;

(ii) the number of Directors in office or Director candidates that in either case were elected or appointed to the Board or will be included in the Corporation's proxy materials with respect to such Annual Meeting as an unopposed (by the Corporation) nominee pursuant to an agreement, arrangement or other understanding with a Stockholder or group of Stockholders (other than any such agreement, arrangement or understanding entered into in connection with an acquisition of Voting Stock, by such Stockholder or group of Stockholders, from the Corporation), other than any such Director referred to in this clause (ii) who at the time of such Annual Meeting will have served as a Director continuously, as a nominee of the Board, for at least one full three-year term, but only to the extent the Permitted Number after such reduction with respect to this clause (ii) equals or exceeds one; and

(iii) the number of Directors in office for whom access to the Corporation's proxy materials was previously provided (or requested) pursuant to this Section 2.12, other than (A) any such Director referred to in this Section 2.12 (c)(iii) whose term of office will expire at such Annual Meeting and who is not seeking (or agreeing) to be nominated at such meeting for another term of office and (B) any such Director referred to in this Section 2.12 (c)(iii) who at the time of such Annual Meeting will have served as a Director continuously, as a nominee of the Board, for at least one full three-year term; provided, that in no circumstance shall the Permitted Number exceed the number of Directors to be elected at the applicable Annual Meeting as noticed by the Corporation; and provided, further, that in the event the Board resolves to reduce the size of the Board effective on or prior to the date of the Annual Meeting, the Permitted Number shall be calculated based on the number of Directors in office as so reduced. In the event that the number of Stockholder Nominees submitted by Eligible Stockholders pursuant to this Section 2.12 exceeds the Permitted Number, each Eligible Stockholder will promptly upon request of the Corporation select one Stockholder Nominee for inclusion in the Corporation's proxy materials until the Permitted Number is reached, going in order of the amount (largest to smallest) of shares of Voting Stock each Eligible Stockholder disclosed as owned in its Proxy Access Notice submitted to the Corporation. If the Permitted Number is not reached after each Eligible Stockholder has selected one Stockholder Nominee, this selection process will continue as many times as necessary, following the same order each time, until the Permitted Number is reached.

(d) An "Eligible Stockholder" is one or more Stockholders of record who own and have owned, or are acting on behalf of one or more beneficial owners who own and have owned (in each case as defined above), in each case continuously for at least three years as of both the date that the Proxy Access Notice is received by the Corporation pursuant to this Section 2.12, and as of the record date for determining Stockholders eligible to vote at the applicable Annual Meeting, at least three percent of the aggregate voting power of the Voting Stock (the "Proxy Access Request Required Shares"), and who continue to own the Proxy Access Request Required Shares at all times between the date such Proxy Access Notice is received by the Corporation and the date of the applicable Annual Meeting, provided that the aggregate number of Stockholders, and, if and to the extent that a Stockholder is acting on behalf of one or more beneficial owners, of such beneficial owners, whose stock ownership is counted for the purpose of satisfying the foregoing ownership requirement shall not exceed 20. Two or more collective investment funds that are (i) part of the same family of funds or sponsored by the same employer or (ii) a "group of investment companies" as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940 (a "Qualifying Fund") shall be treated as one Stockholder for the purpose of determining the aggregate number of Stockholders in this Section 2.12(d) provided that each fund included within a Qualifying Fund otherwise meets the requirements set forth in this Section 2.12. No shares may be attributed to more than one group constituting an Eligible Stockholder under this Section 2.12 (and, for the avoidance of doubt, no Stockholder may be a member of more than one group constituting an Eligible Stockholder). A record holder acting on behalf of one or more beneficial owners will not be counted separately as a Stockholder with respect to the shares owned by beneficial owners on whose behalf such record holder has been directed in writing to act, but each such beneficial owner will be counted separately, subject to the other provisions of this Section 2.12(d), for purposes of determining the number of Stockholders whose holdings may be considered as part of an Eligible Stockholder's holdings. For the avoidance of doubt, Proxy Access Request Required Shares will qualify as such if and only if the beneficial owner of such shares as of the date of the Proxy Access Notice has itself individually beneficially owned such shares continuously for the three-year period ending on that date and through the other applicable dates referred to above (in addition to the other applicable requirements being met).

(e) No later than the final date when a nomination pursuant to this Section 2.12 may be delivered to the Corporation, an Eligible Stockholder (including each Constituent Holder) must provide the information set forth in Section 2.10 of these Bylaws to the Secretary and also provide the following information in writing to the Secretary:

(i) with respect to each Constituent Holder, the name and address of, and number of shares of Voting Stock owned by, such person;

(ii) one or more written statements from the record holder of the shares (and from each intermediary through which the shares are or have been held during the requisite three-year holding period) verifying that, as of a date within seven calendar days prior to the date the Proxy Access Notice is delivered to the Corporation, such person owns, and has owned continuously for the preceding three years, the Proxy Access Request Required Shares, and such person's agreement to provide:

(A) within 10 days after the record date for the applicable Annual Meeting, written statements from the record holder and intermediaries verifying such person's continuous ownership of the Proxy Access Request Required Shares through the record date, together with any additional information reasonably requested to verify such person's ownership of the Proxy Access Request Required Shares; and

(B) immediate notice if the Eligible Stockholder ceases to own any of the Proxy Access Request Required Shares prior to the date of the applicable Annual Meeting;

(iii) any information relating to such Eligible Stockholder (including any Constituent Holder) and its or their respective affiliates or associates or others acting in concert therewith, and any information relating to such Eligible Stockholder's Stockholder Nominee(s), in each case that would be required to be disclosed in a proxy statement and form of proxy or other filings required to be made in connection with solicitations of proxies for the election of such Stockholder Nominee(s) in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder;

(iv) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among the Eligible Stockholder (including any Constituent Holder) and its or their respective affiliates and associates, or others acting in concert therewith, on the one hand, and each of such Eligible Stockholder's Stockholder Nominee(s), and his or her respective affiliates and associates, or others acting in concert therewith, on the other hand, including without limitation all information that would be required to be disclosed pursuant to Rule 404 promulgated under Regulation S-K if the Eligible Stockholder (including any Constituent Holder), or any affiliate or associate thereof or person acting in concert therewith, were the "registrant" for purposes of such rule and the Stockholder Nominee were a director or executive officer of such registrant;

(v) a representation that such person:

(A) acquired the Proxy Access Request Required Shares in the ordinary course of business and not with the intent to change or influence control of the Corporation, and does not presently have such intent;

(B) has not nominated and will not nominate for election to the Board at the applicable Annual Meeting any person other than the Stockholder Nominee(s) being nominated pursuant to this Section 2.12;

(C) has not engaged and will not engage in, and has not and will not be a "participant" in another person's, "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act in support of the election of any individual as a Director at the applicable Annual Meeting other than its Stockholder Nominee(s) or a nominee of the Board;

(D) will not distribute to any Stockholder any form of proxy for the applicable Annual Meeting other than the form distributed by the Corporation; and

(E) will provide facts, statements and other information in all communications with the Corporation and its Stockholders that are and will be true and correct in all material respects and do not and will not omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading, and will otherwise comply with all Applicable Laws in connection with any actions taken pursuant to this Section 2.12;

(vi) in the case of a nomination by a group of Stockholders that together is such an Eligible Stockholder, the designation by all group members of one group member that is authorized to act on behalf of all members of the nominating Stockholder group with respect to the nomination and matters related thereto, including withdrawal of the nomination; and

(vii) an undertaking that such person agrees to:

(A) assume all liability stemming from, and indemnify and hold harmless the Corporation and each of its directors, officers, and employees individually against any liability, loss or damages in connection with any threatened or pending action, suit or proceeding, whether legal, administrative or investigative, against the Corporation or any of its directors, officers or employees arising out of any legal or regulatory violation arising out of the Eligible Stockholder's communications with the Stockholders of the Corporation or out of the information that the Eligible Stockholder (including such person) provided to the Corporation; and

(B) file with the Securities and Exchange Commission any solicitation by the Eligible Stockholder of Stockholders of the Corporation relating to the Annual Meeting at which the Stockholder Nominee will be nominated.

In addition, no later than the final date on which a Proxy Access Notice may be submitted under this Section 2.12, a Qualifying Fund whose stock ownership is counted for purposes of qualifying as an Eligible Stockholder must provide to the Secretary any documentation reasonably satisfactory to the Board that demonstrates that the funds included within the Qualifying Fund are either part of the same family of funds or sponsored by the same employer. In order to be considered timely, any information required by this Section 12.2 to be provided to the Corporation must be supplemented (by delivery to the Secretary) (1) no later than 10 days following the record date for the applicable Annual Meeting, to disclose the foregoing information as of such record date, and (2) no later than the fifth day before the applicable Annual Meeting, to disclose the foregoing information as of the date that is no earlier than 10 days prior to such Annual Meeting. For the avoidance of doubt, the requirement to update and supplement such information shall not permit any Eligible Stockholder or other person to change or add any proposed Stockholder Nominee or be deemed to cure any defects or limit the remedies (including without limitation under these Bylaws) available to the Corporation relating to any defect.

(f) The Eligible Stockholder may provide to the Secretary, at the time the information required by this Section 2.12 is originally provided, a written statement for inclusion in the Corporation's proxy statement for the applicable Annual Meeting, not to exceed 500 words, in support of the candidacy of such Eligible Stockholder's Stockholder Nominee (the "Statement"). Notwithstanding anything to the contrary contained in this Section 2.12, the Corporation may omit from its proxy materials any information or Statement that it, in good faith, believes is materially false or misleading, omits to state any material fact or would violate any Applicable Laws.

(g) No later than the final date when a nomination pursuant to this Section 2.12 may be delivered to the Corporation, each Stockholder Nominee must provide the information set forth in Section 2.10(c) of these Bylaws, the completed and signed questionnaire, representation and agreement required by Section 2.10(e) of these Bylaws and such additional information as necessary to permit the Board to determine if any of the matters contemplated by Section 2.12(i) apply. In the event that any information or communications provided by the Eligible Stockholder (or any Constituent Holder) or the Stockholder Nominee to the Corporation or its Stockholders ceases to be true and correct in all material respects or omits a material fact necessary to make the statements made, in light of the circumstances under which they were made, not misleading, each Eligible Stockholder or Stockholder Nominee, as the case may be, shall promptly notify the Secretary of any defect in such previously provided information and of the information that is required to correct any such defect; it being understood for the avoidance of doubt that providing any such notification shall not be deemed to cure any such defect or limit the remedies (including without limitation under these Bylaws) available to the Corporation relating to any such defect.

(h) Any Stockholder Nominee who is included in the Corporation's proxy statement for a particular Annual Meeting, but subsequently is determined not to satisfy the eligibility requirements of this Section 2.12 or any other provision of these Bylaws, the Certificate of Incorporation, the DGCL or any Applicable Laws any time before such Annual Meeting will not be eligible for election at such Annual Meeting.

(i) The Corporation shall not be required to include, pursuant to this Section 2.12, a Stockholder Nominee in its proxy materials for any Annual Meeting, or, if the proxy statement already has been filed, to allow the nomination of a Stockholder Nominee, notwithstanding that proxies in respect of such vote may have been received by the Corporation:

(i) who is not independent under the listing the principal U.S. exchange upon which the common stock of the Corporation is listed, any applicable rules of the Securities and Exchange Commission and any publicly disclosed standards used by the Board in determining and disclosing independence of the Corporation's Directors, in each case as determined by the Board;

(ii) whose service as a member of the Board would violate or cause the Corporation to be in violation of these Bylaws, the Certificate of Incorporation, the rules and listing standards of the principal U.S. exchange upon which the common stock of the Corporation is traded or other Applicable Laws;

(iii) if the Eligible Stockholder (or any Constituent Holder) or applicable Stockholder Nominee otherwise breaches or fails to comply in any material respect with its obligations pursuant to this Section 2.12 or any agreement, representation or undertaking required by this Section 2.12; or

(iv) if the Eligible Stockholder ceases to be an Eligible Stockholder for any reason, including but not limited to not owning the Proxy Access Request Required Shares through the date of the applicable Annual Meeting.

For the purposes of this Section 2.12(i), clauses (i) and (ii) of this Section 2.12(i) and, to the extent related to a breach or failure by the Stockholder Nominee, clause (iii) of this Section 2.12(i) will result in the exclusion from the proxy materials pursuant to this Section 2.12 of the specific Stockholder Nominee to whom the ineligibility applies, or, if the proxy statement already has been filed, the ineligibility of such Stockholder Nominee to be nominated; *provided, however*, that clause (iv) of this Section 2.12(i) and, to the extent related to a breach or failure by an Eligible Stockholder (or any Constituent Holder), clause (iii) of this Section 2.12(i) will result in the Voting Stock owned by such Eligible Stockholder (or Constituent Holder) being excluded from the Proxy Access Request Required Shares (and, if as a result the Proxy Access Notice shall no longer have been filed by an Eligible Stockholder, the exclusion from the proxy materials pursuant to this Section 2.12 of all of the applicable Stockholder's Stockholder Nominees from the applicable Annual Meeting or, if the proxy statement has already been filed, the ineligibility of all of such Stockholder's Stockholder Nominees to be nominated).

ARTICLE III
BOARD COMMITTEES

Section 3.1 Board Committees. The Board may designate one or more Board Committees consisting of one or more of the Directors. The Board may designate one or more Directors as alternate members of any Board Committee, who may replace any absent or disqualified member at any meeting of that Committee. The Board may change the membership of any Board Committee and fill vacancies on any such Committee at any time. A majority of the members of any Board Committee will constitute a quorum for the transaction of business by that Committee unless the Board requires a greater number for that purpose. The Board may elect a chair of any Board Committee. Except as otherwise set forth in these Bylaws, the election or appointment of any Director to a Board Committee will not create any contract rights for such Director, and the Board's removal of any member of any Board Committee will not prejudice any contract rights that such Director otherwise may have. Subject to the DGCL or other Applicable Laws, each Board Committee the Board may designate pursuant to this Section 3.1 will have and may exercise all the powers and authorities of the Board to the extent the Board so provides. Each Board Committee may appoint such subcommittees as it may deem necessary, advisable or appropriate.

Section 3.2 Board Committee Rules. Unless the Board otherwise provides, each Board Committee may make, alter and repeal rules for the conduct of its business. In the absence of those rules, each Board Committee will conduct its business in the same manner as the Board conducts its business pursuant to ARTICLE II or any rules and procedures adopted by the Board in accordance with Section 2.1(b).

ARTICLE IV
OFFICERS

Section 4.1 Designation. The officers of the Corporation will consist of a Chief Executive Officer, one or more Presidents (of the Corporation and/or of a business unit or division of the Corporation), a Secretary, a Treasurer and such senior or other Vice Presidents, Assistant Secretaries, Assistant Treasurers and other officers as the Board may elect or appoint from time to time. Any number of offices of the Corporation may be held by the same person. The Board shall also elect or appoint from among the Directors a person to act as Chairman of the Board who shall not be deemed to be an officer of the Corporation unless he or she has otherwise been elected or appointed as such. The Chairman of the Board must be a U.S. citizen.

Section 4.2 Chief Executive Officer. The Chief Executive Officer will, subject to the control of the Board: (a) have general supervision and control of the affairs, business, operations and properties of the Corporation; (b) see that all orders and resolutions of the Board are carried into effect; and (c) have the power to appoint and remove all subordinate officers, employees and agents of the Corporation, except for those the Board elects or appoints. The Chief Executive Officer also will perform such other duties and may exercise such other powers as generally pertain to his or her office or these Bylaws or the Board by resolution assigns to him or her from time to time. The Chief Executive Officer must be a U.S. citizen.

Section 4.3 Powers and Duties of Other Officers. The other officers of the Corporation will have such powers and duties in the management of the Corporation as the Board by resolution may prescribe and, except to the extent so prescribed, as generally pertain to their respective offices, subject to the control of the Board. The Board may require any officer, agent or employee to give security for the faithful performance of his or her duties.

Section 4.4 Vacancies. Whenever vacancies occur in any office by death, resignation, increase in the number of officers of the Corporation or otherwise, the same shall be filled by the Board or the Chief Executive Officer, and the officer so elected shall hold office until such officer's successor is elected or appointed or until his or her earlier death, resignation or removal.

Section 4.5 Removal. Any officer or agent elected or appointed by the Board or the Chief Executive Officer may be removed by the Board whenever in its judgment the best interests of the Corporation will be served thereby, but such removal shall be without prejudice to the contract, common law and statutory rights, if any, of the person so removed. Except as otherwise provided in these Bylaws, no election or appointment of an officer or agent, or service of such officer or agent in such capacity, in and of itself, will create contract rights.

Section 4.6 Action with Respect to Securities of Other Corporations. Unless otherwise directed by the Board, the Chairman of the Board, the Chief Executive Officer, the President, any Vice President and the Treasurer of the Corporation shall each have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of security holders of or with respect to any action of security holders of any other corporation in which the Corporation may hold securities and otherwise to exercise any and all rights and powers which the Corporation may possess by reason of its ownership of securities in such other corporation.

ARTICLE V
CAPITAL STOCK

Section 5.1 Share Certificates/Uncertificated Shares. Shares of capital stock of the Corporation will be uncertificated and shall not be represented by certificates except as to the extent required by Applicable Laws or as may otherwise be authorized by the Secretary. Ownership of all uncertificated shares shall be evidenced by book entry notation on the books of the Corporation. Any shares of capital stock represented by a certificate shall be issued in such form as approved by the Board. No certificate representing shares, if any, will be valid unless it is signed by or in the name of the Corporation in accordance with the DGCL. Any certificates issued by the Corporation for any class of capital stock shall be consecutively numbered. The name of the person owning the shares represented thereby, with the class and number of such shares and the date of issue shall be entered in the books and records of the Corporation.

Section 5.2 Transfer of Shares. The Corporation may act as its own transfer agent and registrar for shares of its capital stock or use the services of one or more transfer agents and registrars as the Board by resolution may appoint from time to time. Transfers of uncertificated shares shall be made on the books of the Corporation upon receipt of proper transfer instructions from the registered holder or from such holder's attorney upon presentment of a power of attorney or other proper evidence of succession, assignment or authority to transfer in accordance with customary procedures for transferring shares in uncertificated form. Transfers of shares, if any, represented by certificates will be made on the books of the Corporation only upon receipt by the Corporation of the certificate or certificates representing such shares properly endorsed for transfer or accompanied by appropriate stock transfer powers. No transfer of shares shall be valid until such transfer has been made upon the books of the Corporation.

Section 5.3 Ownership of Shares. Unless otherwise required by the DGCL or other Applicable Laws, the Corporation may regard the person in whose name any shares issued by the Corporation are registered in the stock transfer records of the Corporation at any particular time (including, without limitation, as of a record date fixed pursuant to Section 1.4) as the owner of such shares at that time for all purposes including but not limited to voting, receiving distributions thereon or notices in respect of, transferring, exercising rights of dissent with respect to, entering into agreements with respect to, or giving proxies with respect to such shares; and neither the Corporation nor any of its officers, Directors, employees or agents shall be liable for regarding that person as the owner of such shares at that time for any of those purposes.

Section 5.4 Regulations Regarding Shares. The Board will have the power and authority to make all such additional rules and regulations, or authorize the Corporation's transfer agent or registrar to make such additional rules and regulations, as the Board or the transfer agent or registrar, as the case may be, may deem expedient or desirable concerning the issue, transfer and registration of shares of capital stock of the Corporation.

ARTICLE VI
INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.1 Indemnification. The Corporation shall, to the fullest extent permitted by the DGCL and other Applicable Laws in effect on the effective date of these Bylaws, and to such greater extent as the DGCL or other Applicable Laws may thereafter permit, indemnify and hold each Indemnitee (as this and all other capitalized words used in this ARTICLE VI and not previously defined in these Bylaws are defined in Section 6.13) harmless from and against any and all Losses and any and all reasonable Expenses incurred by such Indemnitee in connection with any Proceeding in which such Indemnitee is made or threatened to be made a party, or is made or threatened to be made a witness, by reason of the fact that such Indemnitee is or was a Director or officer of the Corporation or is or was serving in another Corporate Capacity at the request of the Corporation.

Section 6.2 Advancement of Expenses. In the event of any threatened or pending Proceeding that may give rise to a right of indemnification to an Indemnitee under this ARTICLE VI, following a written request to the Corporation by such Indemnitee pursuant to Section 6.3, the Corporation shall promptly pay to the Indemnitee, or pay directly to the third party or parties to whom such Expenses are payable, amounts to cover all reasonable Expenses incurred by such Indemnitee in such Proceeding in advance of its final disposition upon the receipt by the Corporation of (a) a written undertaking executed by or on behalf of such Indemnitee providing that the Indemnitee will repay the advances if it shall ultimately be determined that the Indemnitee is not entitled to be indemnified by the Corporation as provided in this ARTICLE VI or otherwise under the DGCL or other Applicable Laws and (b) reasonably satisfactory evidence as to the amount and nature of such Expenses incurred.

Section 6.3 Notice of Proceeding; Request for Indemnification. Promptly upon receipt by an Indemnitee of notice of the commencement of, or a threat to commence, any Proceeding for which such Indemnitee anticipates or contemplates making a claim for indemnification or advancement of Expenses pursuant to this ARTICLE VI, the Indemnitee shall notify the Corporation of the commencement or threat of commencement of such Proceeding; *provided, however*, that any delay in so notifying the Corporation shall not constitute a waiver or release by the Indemnitee of his or her rights hereunder and that any omission by the Indemnitee to so notify the Corporation shall not relieve the Corporation from any liability that it may have to the Indemnitee otherwise than under this ARTICLE VI unless and only to the extent that the Corporation can demonstrate that it was materially prejudiced by such delay or omission. The Indemnitee, along with the notice of commencement of, or threat to commence, such Proceeding, shall submit to the Secretary a written claim for indemnification and advancement of Expenses. Such written claim shall contain sufficient information to reasonably inform the Corporation about the nature of the Proceeding and the extent of the indemnification and advancement of Expenses sought by the Indemnitee. The Secretary shall promptly advise the Board of such claim.

Section 6.4 Determination of Entitlement; No Change of Control. If there has been no Change of Control on or before the date of the determination of an Indemnitee's entitlement to indemnification pursuant to this ARTICLE VI, such determination shall be made in accordance with Section 145(d) of the DGCL. If the determination is to be made by an Independent Counsel, the Corporation shall furnish notice to the Indemnitee, within 10 days after receipt of the Indemnitee's claim for indemnification, specifying the identity and address of the selected Independent Counsel. The Indemnitee may, within 14 days after receipt of such written notice, deliver to the Corporation a written objection to such selection. Such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of an Independent Counsel (as set forth in Section 6.13) and the objection shall set forth with particularity the factual basis for such assertion. If the Indemnitee so objects to the selection of an Independent Counsel, the Corporation may petition the Court for a determination that the Indemnitee's objection is without a reasonable basis, and the Indemnitee may petition the Court for the appointment of an Independent Counsel selected by the Court. No Independent Counsel may serve if a timely objection has been made to his or her selection until a court has determined that such objection is without a reasonable basis.

Section 6.5 Determination of Entitlement; Change of Control. If there has been a Change of Control on or before the date of the determination of an Indemnitee's entitlement to indemnification pursuant to this ARTICLE VI, such determination shall be made in a written opinion by an Independent Counsel selected by the Indemnitee. The Indemnitee shall give the Corporation written notice advising of the identity and address of the Independent Counsel so selected. The Corporation may, within 14 days after receipt of such written notice of selection, deliver to the Indemnitee a written objection to such selection. The Indemnitee, within 14 days after the receipt of such objection from the Corporation, may submit the name of another Independent Counsel and the Corporation, within seven days after receipt of such written notice, may deliver to the Indemnitee a written objection to the Indemnitee's second selection. Any objections referred to in this Section 6.5 may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of an Independent Counsel (as set forth in Section 6.13) and such objection shall set forth with particularity the factual basis for such assertion. The Indemnitee may petition the Court for a determination that the Corporation's objection to the first or second selection of an Independent Counsel is without a reasonable basis or for the appointment of an Independent Counsel selected by the Court. No Independent Counsel may serve if a timely objection has been made to his or her selection until a court has determined that such objection is without a reasonable basis. Upon the final selection of an Independent Counsel in accordance with this Section 6.5, the disinterested members of the Board shall direct the Independent Counsel to make a determination of the Indemnitee's entitlement to indemnification in a written opinion as permitted under Section 145(d) of the DGCL.

Section 6.6 Presumptions. In any determination or adjudication of an Indemnitee's right to receive indemnification or advancement of Expenses pursuant to this ARTICLE VI:

(a) *Standard of Conduct Presumed to Have Been Satisfied*. Any Indemnitee shall be presumed to have satisfied the applicable standard of conduct under the DGCL or other Applicable Laws to entitle him or her to indemnification in accordance with Section 6.1, and the Corporation shall have the burden of proof to overcome the presumption by clear and convincing evidence.

(b) *No Effect of Adverse Resolution of Proceeding*. The termination of any Proceeding, or of any Matter therein, by judgment, order, settlement or conviction, or upon a plea of *nolo contendere* or its equivalent, in and of itself, shall not adversely affect the right of an Indemnitee to indemnification or create a presumption that the Indemnitee did not satisfy the applicable standard of conduct under the DGCL or other Applicable Laws to entitle him or her to indemnification.

(c) *Employee Plans*. A person who acted in good faith and in a manner he or she reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan of the Corporation shall be deemed to have acted in good faith and in a manner not opposed to the best interests of the Corporation.

(d) *Reliance on Books and Records; Opinions, Reports*. A person shall be deemed to have acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, or, with respect to any criminal Proceeding, to have had no reasonable cause to believe his or her conduct was unlawful, if his or her action was taken in reliance upon (i) the records or books of account or other records of the Corporation or another entity for which such person is or was serving in a Corporate Capacity at the request of the Corporation, (ii) information, opinions, reports or statements presented to him or her or to the Corporation or another entity for which such person is or was serving in a Corporate Capacity at the request of the Corporation by any of the Corporation's or such other entity's officers, employees or Directors, or Board Committees, or by any other person as to matters that the person relying on such information reasonably believes are in such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation or such other entity or (iii) on information or records given or reports made to the Corporation, or to another entity for which such person is or was serving in a Corporate Capacity at the request of the Corporation, by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by or on behalf of the Corporation or such other entity. The provisions of this paragraph shall not be deemed to be exclusive or to limit in any way the circumstances in which an Indemnitee may be deemed to have met the applicable standards of conduct for determining entitlement to rights under this ARTICLE VI.

(e) *Expenses Presumed Reasonable*. An Indemnitee will have the burden of showing that the Indemnitee actually incurred any Expenses for which the Indemnitee requests indemnification or advancement pursuant to Section 6.1 or Section 6.2. If the Corporation has made any advance payments in respect of any Expenses incurred by the Indemnitee without objecting in writing to the Indemnitee at the time of the advance to the reasonableness thereof, the incurrence of that Expense by the Indemnitee will be deemed for all purposes hereunder to have been reasonable. In the case of any Expense as to which such an objection has been made, or any Expenses for which no advance has been made, the incurrence of that Expense will be presumed to have been reasonable, and the Corporation will have the burden of proof to overcome that presumption.

(f) *No Knowledge Imputed to Indemnitee*. Neither the knowledge nor the conduct of any other Director, officer, employee, agent, manager, member, representative, administrator or other official of the Corporation, or any other entity for which an Indemnitee is or was serving at the request of the Corporation, shall be imputed to the Indemnitee.

(g) *Presumed to be Serving at the Request of the Corporation*. A person serving in a Corporate Capacity with a direct or indirect subsidiary of the Corporation or another entity in the course of carrying out his or her duties to the Corporation or any direct or indirect subsidiary of the Corporation will, absent evidence to the contrary, be deemed to be serving in such Corporate Capacity at the request of the Corporation regardless of whether or not such request was made in writing.

Section 6.7 Independent Counsel Expenses. The Corporation shall pay any and all reasonable fees and expenses of an Independent Counsel selected or appointed pursuant to this ARTICLE VI and in any Proceeding brought pursuant to Section 6.8 to which such Independent Counsel is a party or witness in respect of its investigation and written report. The Corporation shall also pay all reasonable fees and expenses incident to the procedures in which such Independent Counsel was selected or appointed, including all reasonable fees and expenses incident to a Court petition to select or appoint an Independent Counsel.

Section 6.8 Adjudication to Enforce Rights. In the event that (a) a determination is made pursuant to Section 6.4 or Section 6.5 that an Indemnitee is not entitled to indemnification under this ARTICLE VI; (b) advancement of Expenses is not timely made pursuant to Section 6.2; (c) a determination to be made pursuant to Section 6.4 (unless such determination is to be made by Independent Counsel) is not made and furnished to Indemnitee in writing within 60 days after the date of the Indemnitee's claim for indemnification delivered pursuant to Section 6.3; (d) an Independent Counsel has not made and delivered a written opinion determining the claim for indemnification (i) within 90 days after being appointed by the Court, (ii) within 90 days after objections to his or her selection have been overruled by the Court or (iii) within 90 days after the time for the Corporation or Indemnitee to object to such Independent Counsel's selection has expired; or (e) payment of indemnification is not made within five days after a determination in favor of the Indemnitee has been made pursuant to Section 6.4 or Section 6.5, the Indemnitee may petition the Court to enforce his or her rights to indemnification and/or advancement of Expenses pursuant to this ARTICLE VI. In the event that a determination shall have been made that the

Indemnitee is not entitled to indemnification, any adjudication commenced pursuant to this Section 6.8 shall be conducted in all respects as a de novo trial on the merits and the Indemnitee shall not be prejudiced by reason of that adverse determination. If a determination shall have been made or is deemed to have been made pursuant to Section 6.4 or Section 6.5 that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any Proceeding commenced pursuant to this Section 6.8, or otherwise, unless the Indemnitee knowingly misrepresented a material fact in connection with the claim for indemnification, or such indemnification is prohibited by Applicable Laws. In the event of any determination pursuant to Section 6.4 or Section 6.5 that is adverse to the Indemnitee, the Indemnitee must commence Proceedings under this Section 6.8 within one year following notice of such determination to the Indemnitee or be bound by such determination for all purposes under this ARTICLE VI. The Corporation shall be precluded from asserting in any Proceeding commenced pursuant to this Section 6.8 that the procedures and presumptions of this ARTICLE VI are not valid, binding and enforceable. If an Indemnitee prevails in any Proceeding brought pursuant to this Section 6.8, then the Indemnitee shall be entitled to recover from the Corporation, and shall be indemnified by the Corporation against, any and all Expenses actually and reasonably incurred by him or her in such Proceeding. If it shall be determined in such Proceeding that Indemnitee is entitled to receive part but not all of the indemnification or advancement of Expenses sought, then the Expenses incurred by Indemnitee in connection with such Proceeding shall be prorated between the Indemnitee and the Corporation based upon the percentage that the amount of indemnification and Expenses awarded to the Indemnitee in such Proceeding bears to the total amount of indemnification and Expenses sought by the Indemnitee in such Proceeding.

Section 6.9 Participation by the Corporation. With respect to any Proceeding (or any Matter therein) to which the Corporation is not a party: (a) the Corporation will be entitled to participate therein at its own expense; (b) except as otherwise provided below, to the extent that, and for so long as, the Corporation has agreed in writing that an Indemnitee is entitled to full indemnification for a Proceeding or any Matter therein, the Corporation (jointly with any other indemnifying party similarly notified) will be entitled to assume the defense thereof, with counsel reasonably satisfactory to the Indemnitee; and (c) the Corporation shall not be liable to indemnify the Indemnitee under this ARTICLE VI for any amounts paid in settlement of any action or claim effected without its prior written consent, which consent shall not be unreasonably withheld. After receipt of notice from the Corporation to the Indemnitee of the Corporation's election to assume the defense of a Proceeding (or any Matter therein) pursuant to this Section 6.9, the Corporation will not be liable to the Indemnitee under this ARTICLE VI for any legal or other expenses subsequently incurred by the Indemnitee in connection with the defense thereof except as otherwise provided below. The Indemnitee shall have the right to employ his or her own counsel in such Proceeding, but the fees and expenses of such counsel incurred after the Corporation has assumed the defense thereof shall be at the expense of the Indemnitee unless the employment of separate counsel by Indemnitee has been authorized by the Corporation. Notwithstanding the foregoing, the Corporation shall have no right to assume the defense of any Proceeding or any Matter therein if (x) the Indemnitee reasonably concludes that there is a conflict of interest between the Corporation and the Indemnitee in the conduct of the defense of such Proceeding or Matter; (y) the Corporation does not employ counsel or otherwise fails to diligently defend such Proceeding or Matter; or (z) the Proceeding involves allegations of criminal violations against the Indemnitee, and the fees and expenses of counsel employed by Indemnitee shall be subject to advancement and indemnification (and all limitations thereto) pursuant to the terms of this ARTICLE VI. The Corporation shall not settle any Proceeding or any Matter therein in any manner that would impose any restrictions or unindemnified Losses on the Indemnitee without Indemnitee's prior written consent, which consent shall not be unreasonably withheld.

Section 6.10 Nonexclusivity of Rights; Successors in Interest

(a) *Nonexclusivity*. The rights of indemnification and advancement of Expenses as provided by this ARTICLE VI shall not be deemed exclusive of any other rights to which an Indemnitee may at any time be entitled under the DGCL or other Applicable Laws, the Certificate of Incorporation, these Bylaws, any agreement, a vote of Stockholders or a resolution of Directors, or otherwise. No amendment, alteration or repeal of this ARTICLE VI or any provision of these Bylaws shall be effective as to any Indemnitee for acts, events and circumstances that occurred, in whole or in part, before such amendment, alteration or repeal was adopted. The provisions of this ARTICLE VI shall be deemed to preclude the indemnification of any person who is not specified in this ARTICLE VI as having the right to receive indemnification.

(b) *Successors in Interest*. The provisions of this ARTICLE VI shall inure to the benefit of any Indemnitee and his or her heirs, executors, administrators or personal representatives and be binding upon, and enforceable against, the Corporation and its successors and assigns, including (i) any resulting or surviving entity or entities of any consolidation or merger in which the Corporation is a constituent entity and ceases to exist as a separate entity; and (ii) any successor of all or substantially all of the assets and properties of the Corporation (in which event, the Corporation shall cause any such successor of the Corporation's assets and properties to agree to assume the obligations of the Corporation under this ARTICLE VI).

Section 6.11 Insurance; Third Party Payments; Subrogation. The Corporation may maintain insurance, at its expense, to protect itself and any Director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any Losses or Expenses, whether or not the Corporation would have the power to indemnify such person against such Losses or Expenses under the DGCL or other Applicable Laws. The Corporation shall not be liable under this ARTICLE VI to make any payment of amounts otherwise payable hereunder if, but only to the extent that, an Indemnitee has previously actually received such payment of such amounts from a third party under any insurance policy, contract, agreement or other arrangement. Without limiting the effect of the foregoing, in the event that any Indemnitee is entitled to indemnification or advancement of Expenses for the same Losses or Expenses from both the Corporation under this ARTICLE VI or otherwise and another entity (other than a wholly-owned subsidiary of the Corporation, whether owned directly by the Corporation or indirectly through other subsidiaries) as a result of such Indemnitee serving in a Corporate Capacity for such other entity, then, as between the Corporation and such other entity, the Corporation's obligations to provide indemnification or advancement of Expenses will be secondary to the obligations of such other entity, and the Corporation will only be obligated to pay such indemnification or advancement of Expenses upon the denial of any claim for such indemnification or advancement of Expenses by such other entity. In the event of any payment hereunder, the Corporation shall be subrogated to the extent of such payment to all the rights of recovery of an Indemnitee, who shall execute all documents or other instruments and take all other actions, at the Corporation's expense, as are reasonably requested by the Corporation and necessary to secure such rights, including the execution of any documents necessary to enable the Corporation to bring a Proceeding to enforce such rights.

Section 6.12 Certain Actions for Which Indemnification Is Not Provided. Notwithstanding any other provision of this ARTICLE VI, no person shall be entitled to indemnification or advancement of Expenses under this ARTICLE VI with respect to (a) any Proceeding or any Matter therein initiated by such person or any counter-claim or third-party claim made or threatened in response to a Proceeding initiated by such person except for (i) any Proceeding authorized by the Corporation or (ii) any Proceeding brought by an Indemnitee pursuant to Section 6.8 or otherwise to enforce his or her rights under this ARTICLE VI, or (b) any claim made against an Indemnitee for an accounting of profits, under Section 16(b) of the Exchange Act or any similar provision of the DGCL or other Applicable Laws, from the purchase and sale, or sale and purchase, by the Indemnitee of securities of the Corporation.

Section 6.13 Definitions. For purposes of this ARTICLE VI:

"Change of Control" means a change in control of the Corporation after the date Indemnitee acquired his or her Corporate Capacity, which shall be deemed to have occurred in any one of the following circumstances occurring after such date: (i) there shall have occurred an event that is or would be required to be reported with respect to the Corporation in response to Item 6(e) of Schedule 14A of Regulation 14A (or in response to any similar item on any similar schedule or form) promulgated under the Exchange Act, if the Corporation is or were subject to such reporting requirement; (ii) any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) shall have become the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Corporation representing 40% or more of the combined voting power of the Corporation's then outstanding voting securities without prior approval of at least two-thirds of the members of the Board in office immediately prior to such person's attaining such percentage interest; (iii) the Corporation is a party to a merger, consolidation, sale of assets or other reorganization, or a proxy contest, as a consequence of which members of the Board in office immediately prior to such transaction or event constitute less than a majority of the Directors then in office thereafter; (iv) during any period of two consecutive years, individuals who at the beginning of such period constituted the Board (including, for this purpose, any new Director whose election or nomination for election by the Stockholders was approved by a vote of at least two-thirds of the Directors then still in office who were Directors at the beginning of such period) cease for any reason to constitute a majority of the Directors then in office; or (v) approval by the Stockholders of the Corporation of a complete liquidation or dissolution of the Corporation, other than a liquidation or dissolution in connection with a transaction to which clause (iii) above applies.

"Corporate Capacity" describes the status of an individual as (i) a Director or officer of the Corporation, or (ii) a director, officer, manager, partner, member, member representative, trustee or other duly appointed official of any other corporation, partnership, limited liability company, association, joint venture, trust, employee benefit plan or other enterprise or entity.

"Court" means the Court of Chancery of the State of Delaware or any other court of competent jurisdiction.

"Expenses" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, expert fees, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, or being or preparing to be a witness in a Proceeding.

"Indemnitee" means any person who is or is threatened to be made a party or witness in any Proceeding by reason of serving as a Director or officer of the Corporation or in another Corporate Capacity at the request of the Corporation.

"Independent Counsel" means a law firm, or a member of a law firm, that is experienced in matters of corporate law and neither presently is, nor in the five years previous to his, her or its selection or appointment has been, retained to represent: (i) the Corporation or the applicable Indemnitee in any matter material to either such party or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder.

"Losses" means losses, judgments, fines, penalties, damages, amounts paid in settlement and other actual out of pocket losses.

"Matter" means a claim, a material issue or a substantial request for relief.

"Proceeding" means any action, suit, arbitration, alternate dispute resolution mechanism, investigation, administrative hearing or other proceeding, whether civil, criminal, administrative or investigative.

Section 6.14 Notices under Article VI. Any communication required or permitted to be given to the Corporation under this ARTICLE VI shall be addressed to the Secretary at the Corporation's principal office and any such communication to an Indemnitee shall be addressed to the Indemnitee's address as shown on the Corporation's records unless he or she specifies otherwise and shall be personally delivered, delivered by U.S. Mail, or delivered by commercial express overnight delivery service, or by facsimile, electronic mail or other means of electronic transmission consented to by the intended recipient. Any such notice shall be effective upon receipt.

Section 6.15 Contractual Nature of Rights; Contribution

(a) *Contractual Nature of Rights*. The rights to indemnification and advancement of Expenses provided in this ARTICLE VI shall be considered the equivalent of a contract right that vests upon the occurrence or alleged occurrence of any act or omission that forms the basis for or is related to the Proceeding for which indemnification or advancement of Expenses is sought by an Indemnitee, to the same extent as if the provisions of this ARTICLE VI were set forth in a separate, written contract between such Indemnitee and the Corporation. Such rights shall survive the termination of any Indemnitee's service, whether by resignation, removal or otherwise, and will continue to be effective with respect to actions taken or events occurring, in whole or in part, during the term of such Indemnitee's office regardless of when any Proceeding giving rise to an Indemnitee's rights under this ARTICLE VI are commenced. No repeal, amendment or modification to this ARTICLE VI, or any provisions of these Bylaws, will limit, restrict or otherwise adversely affect the rights of any Indemnitee with respect to any actions taken or events occurring, in whole or part, prior to the date of such repeal, amendment or modification regardless of when any Proceeding giving rise to an Indemnitee's rights under this ARTICLE VI are commenced.

(b) *Contribution*. If it is established that any Indemnitee has the right to be indemnified under Section 6.1 or is entitled to advancement of Expenses under Section 6.2 in respect of any Proceeding, or Matter therein, but that right is unenforceable by reason of any Applicable Laws or public policy, then, to the fullest extent permitted by Law, the Corporation, in lieu of indemnifying the Indemnitee in accordance with Section 6.1, will contribute or cause to be contributed an amount to the Indemnitee to offset the Losses the Indemnitee has incurred, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement or for Expenses reasonably incurred, in connection with such Proceeding or Matter, as is deemed fair and reasonable in light of all the circumstances of the Proceeding or Matter in order to reflect: (i) the relative benefits that the Indemnitee and the Corporation have received as a result of the events or transactions giving rise to the Proceeding or Matter; or (ii) the relative fault of the Indemnitee and of the Corporation and its other employees, officers or agents in connection with the events or transactions.

Section 6.16 Indemnification of Employees, Agents and Fiduciaries. The Corporation, by adoption of a resolution of the Board, may indemnify and advance Expenses to a person who is an employee, agent or fiduciary of the Corporation including any such person who is or was serving at the request of the Corporation as an employee, agent or fiduciary of any other corporation, partnership, joint venture, limited liability company, trust, employee benefit plan or other entity to the same extent and subject to the same conditions (or to such lesser extent and/or with such other conditions as the Board may determine) under which it may indemnify and advance Expenses to an Indemnitee under this ARTICLE VI. The Board, by resolution, may delegate its right and authority to approve the indemnification of, or the advancement of Expenses to, any employee, agent or fiduciary of the Corporation to the Chief Executive Officer or any Vice President, in consultation with the General Counsel or other chief legal officer of the Corporation.

ARTICLE VII
MISCELLANEOUS

Section 7.1 Fiscal Year. The fiscal year of the Corporation shall end on the 31st day of December of each year or as otherwise provided by a resolution adopted by the Board.

Section 7.2 Corporate Seal. The Corporation may adopt a corporate seal, which will have the name of the Corporation inscribed thereon and will be in such form as the Board by resolution may approve from time to time.

Section 7.3 Self-Interested Transactions. No contract or transaction between the Corporation and one or more of its Directors or officers, or between the Corporation and any other entity in which one or more of its Directors or officers are Directors or officers (or hold equivalent offices or positions), or have a financial interest, will be void or voidable solely for this reason, or solely because the Director or officer is present at or participates in the meeting of the Board or Board Committee which authorizes the contract or transaction, or solely because his, her or their votes are counted for that purpose, if: (a) the material facts as to his or her relationship or interest and as to the contract or transaction are disclosed or are known to the Board or the Board Committee, and the Board or Board Committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested Directors, even though the disinterested Directors be less than a quorum; or (b) the material facts as to the Director's or officer's relationship or interest and as to the contract or transaction are disclosed or are known to the Stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of those Stockholders; or (c) the contract or transaction is fair as to the Corporation as of the time it is authorized, approved or ratified by the Board, a Board Committee or the Stockholders. Common or interested Directors may be counted in determining the presence of a quorum at a meeting of the Board or of a Board Committee which authorizes the contract or transaction.

Section 7.4 Form of Records. Any records the Corporation maintains in the regular course of its business, including its stock ledger, books of account, and minute books, may be kept on, or be in the form of electronic media or any other information storage device or system, provided that such records so kept can be converted into clearly legible paper form within a reasonable time.

Section 7.5 Bylaw Amendments. The Board has the power to adopt, amend, repeal or restate from time to time these Bylaws. Any adoption, amendment, repeal or restatement of these Bylaws by the Board shall require the approval of a majority of the Directors then in office. The Stockholders shall also have the power to adopt, amend, repeal or restate these Bylaws at any meeting of the Stockholders before which such matter has been properly brought in accordance with Section 1.10; *provided*, *however*, that, except for any amendment, repeal or restatement approved by a majority of the Directors then in office prior to submission for a Stockholder vote, in addition to any vote of the holders of any class or series of capital stock of the Corporation required by the DGCL or other Applicable Laws or by the Certificate of Incorporation, the affirmative vote of the holders of at least a majority of the voting power of the then issued and outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class, shall be required to adopt, amend, repeal or restate any provision of these Bylaws.

Section 7.6 Notices; Waiver of Notice.

(a) *Delivery of Notice*. Any notice required to be given to any Director under the provisions of the DGCL or other Applicable Laws, the Certificate of Incorporation or these Bylaws, will be deemed to be sufficient if given (i) by facsimile, electronic mail or other form of electronic transmission or (ii) by deposit of the same in the United States mail, with postage paid thereon, addressed to the person entitled thereto at his or her address as it appears in the records of the Corporation, and that notice shall be deemed to have been given on the day of such transmission or mailing, as the case may be. Any notice required to be given to any Stockholder under the provisions of the DGCL or other Applicable Laws, the Certificate of Incorporation or these Bylaws, will be deemed to be sufficient if given (i) by facsimile, electronic mail or other form of electronic transmission consented to by such Stockholder or (ii) by deposit of the same in the United States mail, with postage paid thereon, addressed to the person entitled thereto at his or her address as it appears in the records of the Corporation, and that notice shall be deemed to have been given on the day of such transmission or mailing, as the case may be.

(b) *Waiver of Notice*. As to any notice required to be given to any Stockholder or Director under the provisions of the DGCL or other Applicable Laws, the Certificate of Incorporation or these Bylaws, a waiver thereof in writing signed by the person or persons entitled to that notice or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, will be equivalent to the giving of that notice. Attendance of a person at a meeting will constitute a waiver of notice of that meeting, except when the person attends a meeting solely for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Stockholders, the Board or any Board Committee need be specified in any written waiver of notice or any waiver by electronic transmission unless the Certificate of Incorporation or these Bylaws so require.

Section 7.7 Resignations. Any Director or officer of the Corporation may resign at any time. Any such resignation shall be made by notice in writing (including by electronic transmission) provided to the Chairman of the Board, the Chief Executive Officer or the Secretary and shall take effect at the time specified in such notice, or, if such notice does not specify any time, at the time of its receipt by the Chairman of the Board, the Chief Executive Officer or the Secretary. The acceptance of a resignation by the Chairman of the Board, in the case of a Director or officer, or by the Chief Executive Officer or Secretary in the case of an officer, will not be necessary to make it effective, unless that resignation expressly so provides.

Section 7.8 Books, Reports and Records. The Corporation shall keep books and records of account and shall keep minutes of the proceedings of the Stockholders, the Board and each Board Committee. Each Director and each member of any Board Committee shall, in the performance of his or her duties, be fully protected in relying in good faith on the books of account or other records of the Corporation and on information, opinions, reports or statements presented to him or her or to the Corporation by any of the Corporation’s officers, employees or other Directors, or Board Committees, or by any other person as to matters the Director or member reasonably believes are within such other person’s professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 7.9 Severability. If any provision or provisions of these Bylaws shall be held to be invalid, illegal or unenforceable for any reason whatsoever, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby; and the provisions of these Bylaws so held to be invalid, illegal or unenforceable shall be modified to the extent necessary to be conformed with Applicable Laws and to give effect, to the fullest extent possible, the intent manifested hereby.

Section 7.10 Facsimile Signatures. Facsimile or electronic signatures of the Chairman of the Board, any other Director, or any officer or officers of the Corporation may be used whenever and as authorized by the Board.

Section 7.11 Construction. When used in these Bylaws, the word “hereunder” and words of similar import refer to these Bylaws as a whole and not to any provision of these Bylaws, and the words “Article” and “Section” refer to Articles and Sections of these Bylaws unless otherwise specified. Whenever the context so requires, the singular number includes the plural and vice versa, and a reference to one gender includes the other gender and the neuter. The word “including” (and, with correlative meaning, the word “include”) means including, without limiting the generality of any description preceding that word, and the words “shall” and “will” are used interchangeably and have the same meaning. Except as otherwise provided, wherever any statute, rule or regulation, or any section or provision thereof, is referred to in these Bylaws such reference shall be deemed to include any amendment or modification thereof from time to time, or any successor statute, rule or regulation.

Section 7.12 Captions. Captions to Articles and Sections of these Bylaws are included for convenience of reference only and do not constitute a part of these Bylaws for any other purpose or in any way affect the meaning or construction of any provision of these Bylaws.

Adopted: February 27, 2019

(Back To Top)

Section 3: EX-10.59 (EXHIBIT 10.59)

Exhibit 10.59

MARATHON®

Marathon Petroleum
Annual Cash Bonus (“ACB”) Program

Effective January 1, 2018

Preamble

This program document explains the Annual Cash Bonus Program (the “Program”) of Marathon Petroleum Corporation.

The Program is a sub-plan operating under the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan (the “Plan”), and any successor shareholder-approved omnibus equity plan, which are hereby incorporated into this document by reference. All Awards under the Program are granted pursuant to Section 7 of the Plan (or applicable provisions of any other Plan). Capitalized terms not specifically defined herein 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.

Program Objectives

The purpose of the Program is to motivate and reward Eligible Employees for achieving short-term (annual) business objectives that drive overall shareholder value while encouraging responsible risk taking and accountability.

Definitions

As used in the Program, the following terms shall have the meanings set forth below:

a. “Affiliate” means, any person or entity controlling, controlled by, or under common control with such person.

b. “Award” means a Stock Award, a Cash Award or an award of Incentive Stock Options, Non-qualified Stock Options, Stock Appreciation Rights, Restricted Stock or Restricted Stock Unit Award, or Cash Award granted to a Participant pursuant to the provisions of the Plan, any of which the Committee or its delegate may structure to qualify in whole or in part as a Performance Award.

c. “Board” means the Board of Directors of Marathon Petroleum Corporation.

d. “Change in Control” means a transaction 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 the amount of the securities beneficially owned by such person, any such securities acquired directly from the Corporation or its Affiliates) representing twenty percent (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(s) who become(s) 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 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 (2/3) 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,

(iv) 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; or

(v) A Change in Control shall not be deemed to occur if the Company undergoes a bankruptcy, liquidation, or reorganization under the United States Bankruptcy Code.

Notwithstanding the preceding provisions, 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.

e. “Code” means the Internal Revenue Code of 1986, as amended from time to time, and the rulings and regulations issued thereunder.

f. “Committee” means the Committee delegated by the Board with the authority to administer the Plan. To the extent the Committee has delegated authority to any person(s) or committee(s) pursuant to Section 6 (or other applicable section) of the Plan, a reference to the Committee herein may also include such person(s) or committee(s). However, in no event shall the Committee delegate its authority with respect to the compensation of any Participant deemed to be an “executive officer” as defined in Rule 3b-7 promulgated under the Securities Exchange Act of 1934, as amended.

g. “Company” means
- Marathon Petroleum Company Canada, Ltd,
- Marathon Petroleum Company LP,
- Marathon Petroleum Corporation,
- Marathon Petroleum Services LLC,
- Marathon Petroleum Logistics Services LLC,
- Marathon Petroleum Service Company,
- Speedway LLC, and
- any other subsidiaries or controlled company of the above, as applicable.

All of the above entities are collectively referred to as “Company” or “Marathon Petroleum” for purposes of this document.

h. “Eligible Employees” means regular full-time and regular part-time Company employees who on the last day of the last pay period completed for the Performance Period are assigned to a salary grade within the Company salary structure. Employees who are eligible for other annual incentive compensation programs (e.g., a trader bonus program) are not eligible for the Annual Cash Bonus Program. However, eligibility for employees of Speedway LLC is limited to those classified as President during the Performance Period. Eligible Employees may also include employees of other companies selected by the Committee and select employees of an Affiliate as approved by the Committee.

i. “Eligible Wages” for non-Officer employees include:

(i) base wages paid for time worked and wages deferred during the Performance Period, and

(ii) overtime wages paid during the Performance Period.

Eligible Wages for non-Officer employees exclude non-cash compensation, equity-based compensation, allowances, reimbursements, premiums and any bonus or recognition payments made. They also exclude wages paid or processed by a third party. Eligible wages are the amounts specified above before (i) deductions for taxes or benefits, and (ii) deferrals of compensation pursuant to any Company or Affiliate-sponsored plan.

Eligible Wages for employees designated as Officers shall be equal to their annualized base salary in effect on the last day of the Performance Period. However, Eligible Wages for Officers who retire, are hired or who die during the Performance Period shall be equal to their actual base wages paid plus any compensation deferred during the Performance Period.

In the event of a Change in Control, Eligible Wages shall be the actual wages paid during the Performance Period, as of the date of Change in Control, for all employees.

j. “Performance Period” means any fiscal year or such other measurement period determined by the Committee or its delegate in their sole discretion.

k. “Performance Criteria” shall mean any one or more of the following performance criteria that are in the Plan and were approved by shareholders (or other performance criteria approved by shareholders in the Plan), either individually, alternatively, or in any combination, applied to either the Company as a whole or to a business unit or Subsidiary or Affiliate, either individually, alternatively or in any combination, and measured either quarterly, annually, or cumulatively over a period of years, on an absolute basis or relative to a pre-established target, to previous years’ results or to a designated comparison group, in each case as specified by the Committee or its delegate: (i) revenue, (ii) income measures (which include revenue, gross margin, income from operations, net income, net sales, earnings per share, earnings before interest, depreciation, taxes, and amortization (“EBIDTA”), earnings before interest, taxes and amortization (“EBITA”) and earnings before interest and taxes (“EBIT), and economic value added, (iii) expense measures (which include costs of goods sold, selling, finding and development costs, general and administrative expenses, and overhead costs), (iv) operating measures (which include refinery throughput, mechanical availability, productivity, operating income, funds from operations, product quality, cash from operations, after-tax operating income, market share, margin, and sales volumes), (v) margins (which include crack-spread measures), (vi) refined product measures, (vii) cash management and cash flow measures (which include net cash flow from operating activities, working capital, receivables management and related customer terms), (vii) liquidity measures (which include earnings before or after the effect of certain items such as interest, taxes, depreciation and amortization, improvement in or attainment of working capital levels, and free cash flow (viii) leverage measures (which include debt-to-equity ratio, debt reduction and net debt), (ix) market measures (which include market share, stock price, growth measure, total shareholders return, share price performance, return on equity, return on invested capital and return on assets, and market capitalization measures), (x) return measures (which include return on equity, return on assets, and return on invested capital), (xi) corporate value and sustainability measures (which include compliance, safety, environmental, and personnel matters), (xii) project completion measures (which may include measures regarding whether interim milestones regarding budgets and deadlines are met, as well as whether projects are completed on time and on or under budget), and (xii) other measures such as those relating to acquisitions, dispositions, or customer satisfaction.

Participants and Target Funding

The Committee shall establish in writing (1) the Eligible Employees who will be Participants in the Program, (2) each Participant's target funding percentage for such Performance Period or the formula for determining each Participant's Award and (3) the applicable performance objective or objectives for such Performance Period which will be based on the Performance Criteria. Each Participant’s funding range will have a threshold of 0% and a maximum of two times (2X) their target funding percentage.

Threshold funding for individual metrics is one-half (.5X) of target and the maximum that can be funded is two times (2X) target. Percentages may be rounded. No metric will fund when results are below threshold performance.

Funding ranges for Participants shall be based on grade:

Participant Classification	Target	Award Range
Exempt Grades		
Above Grade 19	Per the Committee	Per the Committee
Grade 19	55%	0% - 110%
Grade 18	50%	0% - 100%
Grade 17	40%	0% - 80%
Grade 16	35%	0% - 70%
Grade 15	30%	0% - 60%
Grade 14	25%	0% - 50%
Grade 13	20%	0% - 40%
Grade 12	15%	0% - 30%
Grade 11	12%	0% - 24%
Grade 10	12%	0% - 24%
Grade 9	10%	0% - 20%
Grade 8	10%	0% - 20%
Grade 7 or Below	10%	0% - 20%
Non-Exempt Grades		
All	7%	0% - 14%

Performance Metrics

The Committee, or its delegate, will establish performance metrics with threshold, target and maximum performance criteria. All performance criteria approved by the Committee are incorporated into the Program document by this reference for the applicable Performance Period.

When any final performance metric result falls between threshold and target or between target and maximum performance levels, linear interpolation will be used to determine funding based on actual performance. For example, if the final result of a metric is halfway between threshold and target performance levels, the funding for that metric would be halfway between the corresponding payout percentages.

Individual Funding vs. Payout

The operation of this Program funds individual payments based on pre-established metrics and subjective metrics as approved by the Committee. The final payout to each Participant is determined based on the assessment of their management considering each Participant's relative performance to other employees. However, no Participant can be awarded more than their maximum percent as specified in the funding ranges table in "Participants and Target Funding" above without approval of the Committee or its delegate.

Hires, Promotions and Transfers

In the case of a newly hired, promoted, or transferred Participant, the Committee may provide for a guaranteed bonus, or a bonus that would exceed the bonus that would otherwise be payable in the Program.

Participants who change from one eligible position to another during the Performance Period may experience a change to their Program target funding, individual objectives or the formula for determining each Participant's Award. In this situation, funding shall be based on the associated target level and business unit for the position held by the Participant on the last day of the Performance Period, provided the position held is not temporary.

If a Participant transfers to a position that is not eligible (e.g., a casual position) under the Program during the Performance Period, such Participant will be ineligible for any payout under this Program for such Performance Period; provided, however, that if a Participant transfers to a Speedway position that is not eligible under the Program during the Performance Period, such Participant will remain eligible for an Award based on their Eligible Wages paid while a Participant under the Program.

Temporary Assignments

Eligibility and funding targets for employees who are on a temporary assignment on the last day of the last pay period completed for the Performance Period shall be determined based on their regular assignment.

Exclusions and Adjustments

The Committee or its delegate may (A) adjust the actual performance or performance goals (either up or down) and the level of the Performance Award that a Participant may earn under the Program if it determines that the occurrence of external changes or other unanticipated business conditions have materially affected the fairness of the goals and/or have unduly influenced the Company's ability to meet them, including, without limitation, events such as material acquisitions, asset write-downs, litigation, claims, judgments or settlements, force majeure events, unlawful acts committed against the Company or its property (including terrorism), labor disputes, legal mandates, accruals for reorganization and restructuring programs and changes in the capital structure of the Company, the effect of changes in tax law or other such laws or provisions affecting reported results, accruals of any amounts for payment under the Program or any other compensation arrangement maintained by the Company, or other events not contemplated at the time the goals are set. In addition, Performance Goals and Performance Awards shall be calculated without regard to any changes in accounting standards or codifications that may be required by the Financial Accounting Standards Board or other standards board or the effect of changes in tax law or other such laws or provisions affecting reported results after such Performance Goals are established.

Approval by Committee

Unless otherwise determined by the Committee, no payments shall be made hereunder in respect of any Performance Period unless the Committee shall approve following the end of the Performance Period that the performance objectives applicable to the Performance Period have been satisfied.

Termination of Employment

Unless otherwise determined by the Committee and except as may otherwise be provided in a Participant's written agreement with the Company or an Affiliate, if a Participant's employment terminates for any reason prior to payment, such Participant shall not be eligible for an Award under the Program, unless the Participant's employment terminates on account of death, Retirement or Severance.

Where a Participant’s employment terminates on account of Retirement or Severance, the Committee will retain the discretion to determine the Award, and payment of the Award will (i) only be made after the end of the Performance Period and as close as practicable to the same time as all other Award payments for such Performance Period, but in no event later than the last day of the calendar year beginning immediately after the Performance Period, and (ii) only be paid to the extent that the performance criteria were achieved.

Any employee who terminates employment for any reason during a Performance Period, other than as a result of Retirement or Severance, and who is subsequently rehired after the Performance Period completes, will not be eligible for payment under the Program for such wages earned during the Performance Period.

Retirement

Any Participant whose employment terminates on account of Retirement on or after July 1 of a Performance Period shall remain eligible for an Award under the Program, based on his or her Eligible Wages paid during the Performance Period, at the discretion of the Committee. A Participant is considered to have had a “Retirement” if the Participant, at the time of the Participant’s termination of employment:

a. is at least age 50 with 10 or more years of accredited service; and
b. is deemed to be in good standing, as determined in the sole discretion of the Committee

Severance

“Severance” means the involuntary termination of a Participant’s employment during a Performance Period pursuant to which the Participant becomes eligible for a termination allowance under the Company’s Termination Allowance Plan. However, any Participant who voluntarily requests termination under the Company’s Termination Allowance Plan is not considered to be an Eligible Employee under the Program.

In addition, Participants who would have otherwise been eligible for the Marathon Petroleum Termination Allowance Plan, but who accepted an offer of employment with:

a. the “buyer” of sold Company assets, or
b. the “new operator” of a jointly-owned facility, or
c. a company that has been contracted to perform services being outsourced.

will remain eligible for consideration of an Award provided the termination date is after June 30th of the Performance Period.

Death of Participant

If the death of a Participant occurs:

a. during a Performance Period, the Participant’s eligibility for the Program will end and a payment will be made to the Participant’s estate as soon as practicable following death, but in all cases no later than the last day of the calendar year beginning immediately after the Performance Period. The payment shall be based on target performance levels for all metrics and the Participant’s Eligible Wages paid during the Performance Period; or

b. after a Performance Period, but before payment for that Performance Period has been made, the Award amount otherwise deemed payable under the Program will be paid to the Participant’s estate (at the time all other Award payments for such Performance Period are made).

Payment of Awards

Following the Performance Period, each Participant's Award for the Performance Period will be determined in accordance with the terms of the Program and the Participant shall be eligible to receive payment of the Award. The payment of the Award shall occur during the first calendar year beginning immediately after the end of the Performance Period.

The Committee shall determine whether payment of the Award will be in Cash, Common Stock, the right to receive Common Stock, Stock Options or other Awards provided for under the Plan; and whether any such payments will be subject to restrictions on transfer, vesting, forfeiture or deferral requirements; provided, however, that if an Award is subject to Section 409A of the Code, any such action shall only be taken if it complies with Section 409A of the Code. Any equity or equity-based Awards shall be granted under the terms and conditions of the Plan.

Change in Control

Unless otherwise determined by the Committee prior to a Change in Control, and except as otherwise may be provided in a Participant’s written agreement with the Company or Affiliate upon a Change in Control, the Program will automatically terminate and each Participant employed by the Company immediately prior to the Change in Control will be vested and entitled to a pro-rated lump sum payment equal to 100% of the Participant’s target bonus percentage multiplied by the Participant’s Eligible Wages. This payment will be made as soon as administratively practicable following the Change in Control, but in no event later than 45 days from the date of the Change in Control. The timing of the payment within such 45-day period shall be determined solely by the Committee without regard to any tax implications to a Participant.

No Right to Awards

Except as may be provided for under the Change in Control section of the Program, no Participant or other person shall have any claim or right to be granted an Award under the Program. Nothing contained in the Program document shall limit the ability of the Company to make payments or Awards to Participants under any other program, agreement or arrangement; provided, however, that no payment under any other program, agreement, or arrangement will be made because of a failure of a Participant to earn an Award hereunder, and no such payment outside of the Program will be in the nature of or in any way related to make-whole payments for what would have been earned or paid hereunder if the performance goals had been met.

No Right to Employment

Neither the establishment of the Program, nor any action taken hereunder, shall be construed as giving any Participant any right to be retained in the employ of the Company, or participate hereunder in the current or succeeding Performance Periods.

Non-Transferability

The rights and benefits of a Participant hereunder are personal to the Participant and, except for any payments that may be made following a Participant's death, shall not be subject to any voluntary or involuntary alienation, assignment, pledge, transfer, encumbrance, attachment, garnishment or other disposition.

No Impact on Benefits

Except as may be required by law or otherwise be specifically stated under any employee benefit plan, policy, or program, no amount payable in respect of any Award shall be treated as compensation for purposes of calculating a Participant'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.

No Constraint on Corporate Actions

Nothing in the Program document shall be construed (a) to limit, impair, or otherwise affect the Company'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 Affiliates to take any action which such entity deems to be necessary or appropriate.

Program Administration

The program shall be administered by the Committee, which shall have full authority to:

a. interpret the Program,
b. establish, interpret, amend or revoke rules and regulations relating to the operation of the Program,
c. interpret the Program, to correct any defect, supply any omission or reconcile any inconsistency in the Program,
d. adopt such rules for the administration, interpretation and application of the Program, and
e. make all determination and take all other actions necessary or appropriate for the proper administration of the Program.

The Committee has complete, unilateral discretion with respect to all aspects of the operation, administration, design, features, benefits and Awards under the Program and can change, terminate, or modify Awards, or otherwise change any aspect of the Program in its discretion prospectively or retroactively, regardless of anything stated in this document.

The Committee may delegate any or all of their authorities hereunder, provided that the Committee shall, in no event, delegate its authority with respect to the compensation of any Participant deemed to be an “executive officer” as defined in Rule 3b-7 under the Securities Exchange Act of 1934. No member of the Committee shall be eligible to participate in the Program.

Taxes

For U.S.-based Participants, any Award received under the Program is subject to all applicable employment withholding taxes in the year paid. For Participants outside the United States, local country tax regulations will apply.

Deductions

There shall be deducted from all individual payouts any taxes required to be withheld by national, Federal, state provincial or local governments and paid over to such government for the accounts of such Participants.

Subject to compliance with Section 409A of the Code and applicable state withholding laws, the Company may also deduct from an individual Award, at its sole discretion, any and all amounts determined by Company management to be owed to the Company by the Participant.

Affiliate Requirements

Prior to the selection of employees of an Affiliate to participate in the Program, the Committee may require the Affiliate to consent to the participation of such employee or employees in the Program and to the charging of such Affiliate with the amount of any Award which may be made to such employee or employees.

Recoupment / Clawback

Officers are subject to recoupment provisions in the Program, in the case of certain forfeiture events. If the Company is required, pursuant to a determination made by the SEC 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 bonus from the Program that would not have been earned or paid had the forfeiture event not have 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 Participant repay to the Company any compensation paid to the Participant under this Program, as is required by the provisions of the Dodd-Frank 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 Corporation's common stock is listed for trading.

Other Provisions

In all events, whether any Cash Award is paid to a Participant will depend on the decision of the Committee (or its delegate, as appropriate). All Awards are subject to the sole discretion of the Committee or its delegate, and nothing in this document (except as may be provided for in the Change in Control provisions) or any other document describing or referring to the Program shall confer any right whatsoever on any person to be considered for any Award.

The program document does not purport to be complete and is subject to and governed by actions, rules and regulations of the Committee (or its delegate, as appropriate).

The Program document may be changed or discontinued at any time without notice or liability at the sole discretion of the Committee.

Awards shall be subject to and governed by the specific terms and conditions of the Plan, and any applicable Award.

Nothing contained herein shall require the Company to segregate any monies from its general fund or to create any trusts, or to make any special deposits for amounts payable to any Participant.

The Program is intended to provide compensation which is exempt from or which complies with Section 409A of the Code, and ambiguous provisions of the Program, if any, shall be construed in a manner that would cause Awards 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 to comply with Section 409A of the Code because a Participant 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 provides for the payment of deferred compensation within the meaning of Section 409A of the Code.

No member of the Committee, or employee of the Company or the Corporation, shall be liable for any act done, or determination made in good faith, with respect to the administration of the Program. 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 the Committee, or employees of the Company or the Corporation 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 a Participant and the Company that has been approved by the Committee.

MARATHON PETROLEUM CORPORATION

/s/ Fiona C. Laird

Fiona C. Laird
Chief Human Resources Officer

November 7, 2018

(Back To Top)

Section 4: EX-10.75 (EXHIBIT 10.75)

Exhibit 10.75

MARATHON PETROLEUM CORPORATION
DEFERRED COMPENSATION PLAN
FOR NON-EMPLOYEE DIRECTORS
(Amended and Restated effective as of January 1, 2019)

1. Purpose

The Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors (the "Plan") is intended to enable the Corporation to attract and retain non-employee Directors and to enhance the long-term mutuality of interest between such Directors and shareholders of the Corporation.

This document contains the provisions of the Plan effective as the effective time of the spin-off of Marathon Petroleum Corporation from Marathon Oil Corporation and thereafter and shall apply to Deferred Cash Accounts and Deferred Stock Accounts, including 409A Benefits and Grandfathered Benefits (as such terms are defined below). In particular, the Plan document shall apply to those stock units and other similar equity awards granted to Participants under the Corporation's 2011 Incentive Compensation Plan (as amended or amended and restated from time to time), the Corporation's 2012 Incentive Compensation Plan (as amended or amended and restated from time to time), as well as successor or predecessor arrangements (in each case, with respect to the awards granted thereunder, the "Applicable Equity Plan"), and deferred under this Plan or its predecessor.

With respect to the 409A Benefits, the Plan is intended to conform to the requirements of Code Section 409A and the regulations thereunder, and, in all respects, shall be administered and construed in accordance with such requirements. With respect to the Grandfathered Benefits, the Plan does not represent a material enhancement of the benefits or rights available under the Marathon Oil Corporation Deferred Compensation Plan for Non-Employee Directors on October 3, 2004, which have subsequently been assumed by this Plan in connection with the spin-off of Marathon Petroleum Corporation from Marathon Oil Corporation.

2. Definitions

The following definitions apply to this Plan and to the Deferral Election Forms:

(a) **409A Benefit** means that portion of a Participant's Deferred Cash Account and Deferred Stock Account that was deferred or became vested after December 31, 2004, with earnings and losses attributable thereto pursuant to Sections 5 and 6.

(b) **Beneficiary or Beneficiaries** means a person or persons or other entity designated on a beneficiary designation form by a Participant as allowed in this Plan to receive Deferred Benefit payments. If there is no valid designation by the Participant, or if the designated Beneficiary or Beneficiaries fail to survive the Participant or otherwise fail to take the Deferred Benefit, the Participant's Beneficiary is the Participant's surviving spouse or, if there is no surviving spouse, the Participant's estate. A Participant may use a beneficiary designation form (in the form and manner acceptable to the Committee) to designate one or more Beneficiaries for all of the Participant's Deferred Benefit; such designations are revocable.

(c) **Board** means the Board of Directors of the Corporation.

(d) **Code** means the Internal Revenue Code of 1986 as amended, including regulations and other guidance of general applicability promulgated thereunder.

(e) **Code Section 409A** means, collectively, Section 409A of the Code and any Treasury and Internal Revenue Service regulations and guidance issued thereunder.

(f) **Committee** means the Corporate Governance and Nominating Committee of the Board or such other committee of the Board as the Board may designate to administer the Plan. In the event the Committee has delegated any authority or responsibility under the Plan in accordance with Section 12, the term "Committee" where used herein shall also refer to the applicable delegate.

(g) **Common Stock** means the common stock of the Corporation.

(h) **Common Stock Unit** means a book-entry unit equal in value to a share of Common Stock. A Participant shall be credited with one Common Stock Unit for each stock unit or hypothetical share of Common Stock granted pursuant to a Director Stock Award (or any successor stock incentive arrangement).

(i) **Corporation** means Marathon Petroleum Corporation or any successor thereto.

(j) **Deferral Election Form** means a document designated by the Committee for the purpose of allowing a Participant to elect deferrals under Section 3.

(k) **Deferral Year** means the calendar year for which a Participant has elected to defer amounts under this Plan.

(l) **Deferred Benefit** means a Participant's Deferred Cash Account and Deferred Stock Account under the Plan.

(m) **Deferred Cash Account** means that bookkeeping record established for each Participant to reflect the status of the Participant's Deferred Cash Benefit under this Plan. A Deferred Cash Account: (i) is established only for purposes of measuring a Deferred Cash Benefit and not to segregate assets or to identify assets that may or must be used to satisfy a Deferred Cash Benefit; (ii) will be credited with that portion of the Participant's Retainer Fee deferred as a Deferred Cash Benefit according to a Deferral Election Form; and (iii) will be credited periodically with earnings and losses as provided under Section 5.

(n) **Deferred Cash Benefit** means the amount of Retainer Fees deferred by a Participant under Section 3.

(o) **Deferred Stock Account** means that bookkeeping record established for each Participant to reflect the status of the Participant's Deferred Stock Benefit under this Plan. A Deferred Stock Account is established only for purposes of measuring Common Stock Units and not to segregate assets or to identify assets that may or must be used to satisfy a Deferred Stock Benefit. A Deferred Stock Account will be credited with the Common Stock Units related to Deferred Stock Awards that are awarded to a Participant quarterly, annually or at such other times that awards are made and deferred. A Deferred Stock Account will be credited periodically with additional Common Stock Units that reflect the value of dividends paid on Common Stock pursuant to Section 6.

(p) **Deferred Stock Benefit** means the number of Common Stock Units that are deferred pursuant to Section 3 or Section 6. In addition to the Common Stock Units credited with respect to any Director Stock Award, a Participant's Deferred Stock Benefit shall also include any Common Stock Units granted in connection with the spin-off of Marathon Petroleum Corporation from Marathon Oil Corporation in substitution for common stock units of Marathon Oil Corporation.

(q) **Directors** means those duly named members of the Board.

(r) **Director Stock Award** means an award of Common Stock Units pursuant to Section 6 of this Plan, as amended from time to time, or, in the discretion of the Committee, any successor or similar stock incentive award.

(s) **Election Date** means the date established by this Plan as the date before which a Participant must submit a valid Deferral Election Form to the Committee. For each Deferral Year, the Election Date is December 31 of the preceding calendar year; provided, however, that the Election Date for newly eligible Directors shall be as provided in Section 3(a). Notwithstanding the foregoing, the Committee may set an earlier date as the Election Date for any Deferral Year. All Election Dates shall be established in conformity with Code Section 409A.

(t) This subsection is intentionally left blank.

(u) **Grandfathered Benefit** means that portion of a Participant's Deferred Cash Account and Deferred Stock Account that is exempt from Code Section 409A because it was deferred and vested under the Marathon Oil Corporation Deferred Compensation Plan for Non-Employee Directors as of December 31, 2004, as adjusted to reflect any earnings or losses thereto pursuant to Sections 5 and 6, and in the case of Common Stock Units, to reflect the spin-off of Marathon Petroleum Corporation from Marathon Oil Corporation.

(v) **Participant** means a Director who is not simultaneously an employee of the Corporation.

(w) **Plan** means the Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors.

(x) **Quarterly Director Award Date** means the first business day of the calendar quarter.

(y) **Quarterly Director Stock Award** means a quarterly grant of Common Stock Units as provided in Section 6(a) of this Plan.

(z) **Retainer Fee** means that portion of a Participant's compensation that is fixed and paid without regard to the Participant's attendance at meetings.

(aa) **Separation from Service** shall have the same meaning as set forth under Code Section 409A.

(bb) **Specified Employee** shall have the same meaning as set forth under Code Section 409A and as determined by the Corporation in accordance with its established policy.

3. Deferral Election

A deferral election is valid when a Deferral Election Form is completed, signed by the Participant, and received by the Committee. Deferral elections are governed by the provisions of this section.

(a) No later than each Deferral Year's Election Date, each Participant may submit a Deferral Election Form to defer until after Separation from Service the receipt of any portion up to 100 percent of the Participant's Retainer Fee for the Deferral Year in the form of a Deferred Cash Benefit. In the event an individual becomes a Director and is first eligible to participate during a Deferral Year, such Director may submit a Deferral Election Form no later than thirty (30) days following the effective date of the individual's position as a Director, provided that, to the extent required by Code Section 409A, the Retainer Fee subject to the election shall be prorated in accordance with Code Section 409A.

(b) Common Stock Units awarded pursuant to a Director Stock Award are automatically deferred and accounted for in a Deferred Stock Account and are not subject to any Deferral Election.

(c) If it does so before the last business day preceding the Deferral Year, the Committee may reject or modify any Deferral Election Form for such Deferral Year and the Committee is not required to state a reason for such action. However, the Committee's rejection or modification of any Deferral Election Form must be based upon action taken without regard to any vote of the Participant whose Deferral Election Form is under consideration, and the Committee's rejections or modifications must be made on a uniform basis with respect to similarly situated Participants. If the Committee rejects or modifies a Deferral Election Form, the Participant must be paid the Retainer Fee that the Participant is entitled to receive after taking into account the rejected or modified Deferral Election Form.

(d) A Participant may not revoke a Deferral Election Form after the Deferral Year begins. Any writing signed by a Participant expressing an intention to revoke the Participant's Deferral Election Form before the close of business on the relevant Election Date is a revocation. In the event the Retainer Fee is paid in more than one payment during a Deferral Year, a Participant's deferral may be taken from such Retainer Fee ratably during the applicable Deferral Year or in any other manner determined by the Committee; provided that such deferrals during the Plan year, in the aggregate, reflect the Participant's deferral election in accordance with Code Section 409A.

4. Effect of No Election

For any Participant who does not submit a valid Deferral Election Form to the Committee by the Election Date for a Deferral Year, the Participant's Deferral Election Form then in effect shall remain effective for the upcoming Deferral Year. Any Participant who does not submit a valid Deferral Election Form by the Election Date and does not have a deferral election then in effect may not defer any part of the Participant's Retainer Fee for the Deferral Year.

5. Deferred Cash Benefits

(a) The Deferred Cash Account for each Participant will be credited with deemed investment returns as provided in Section 5(b). Deferred Cash Benefits are credited to the applicable Participant's Deferred Cash Account as of the day the Retainer Fees would have been paid but for the deferral.

(b) A Participant may select one or more investment options approved by the Committee for the Participant's Deferred Cash Benefits, and earnings and loses from such investment options will be credited to the Participant's Deferred Cash Account at periods determined by the Committee. A Participant may change the investment allocation of the Participant's Deferred Cash Account at any time.

6. Deferred Equity Benefits

(a) Grant of Common Stock Units

i. Pursuant to paragraph 8 of the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan (the "2012 Plan"), the Board is authorized to grant Director Stock Awards to the Participants (which constitute "Stock Awards" for purposes of the 2012 Plan). The terms, conditions and limitations applicable to such Director Stock Awards are to be determined by the Board. Pursuant to Section 12 of this Plan, the Board has delegated its authority to the Committee.

ii. All Participants shall receive Quarterly Director Stock Awards under this Plan.

iii. A Participant who has attained or is expected to attain the applicable mandatory retirement age under the Corporation's mandatory retirement policy, before the next regularly scheduled annual meeting of the Corporation's stockholders shall receive a pro-rated Quarterly Director Stock Award for the quarter in which the next regularly scheduled annual meeting of the Corporation's stockholders will be held. If this Section 6(a)(iii) applies, the Quarterly Director Stock Award will be pro-rated based on the number of days in the quarter that the Participant shall serve as a Director, including the day on which the annual meeting is held.

iv. Except as provided in Section 6(a)(iii), each Participant shall be granted a Quarterly Director Stock Award with respect to a number of unvested Common Stock Units, including fractional Common Stock Units, determined by dividing (i) $39,375 by (ii) the Fair Market Value (as defined in the Applicable Equity Plan) of a share of Common Stock on the date of grant. These grants to all Participants shall automatically be made on the Quarterly Director Award Date under the Applicable Equity Plan under which awards can then be made.

v. The Common Stock Units granted under this Section 6(a) shall vest in full upon the Participant's departure from the Board. Each Participant's Deferred Stock Account will be credited with the number of Common Stock Units covered by a Quarterly Director Stock Award as of the applicable Quarterly Director Award Date.

(b) Each Common Stock Unit held in a Deferred Stock Account will increase or decrease in value by the same amount and with the same frequency as the fair market value of a share of Common Stock.

(c) Each Deferred Stock Account will be credited on or about each Common Stock dividend payment date with additional Common Stock Units, including fractional units, in a quantity equal to the quotient of the dividends payable on the quantity of shares equal to the number of Common Stock Units in such account divided by the value of a share of Common Stock on the date of that payment as determined in accordance with the manner established by the Committee from time to time.

(d) In the event of a reorganization, recapitalization, stock split, stock dividend, combination of shares, merger, consolidation, rights offering or any other change in the corporate structure, the number and kind of Common Stock Units credited to each Participant's Deferred Stock Account shall be adjusted accordingly.

(e) Participants who are eligible for a Director Stock Award under this Plan may also receive a portion of their equity compensation in the form of awards of deferred partnership units of MPLX LP under the MPLX LP 2018 Incentive Compensation Plan as determined by the Board of Directors of MPLX GP LLC and subject to the terms and conditions of such MPLX LP plan and any applicable MPLX LP award instruments or policies.

7. Distributions

(a) A Deferred Cash Benefit must be distributed in cash. A Deferred Stock Benefit must be distributed in shares of Common Stock and such distribution will correspond to, and equal to the number of, the Common Stock Units credited to the Participant's Deferred Stock Account; provided that cash must be paid in lieu of fractional shares of the Common Stock otherwise distributable.

(b) Except as otherwise provided in this Section 7, a Participant's Deferred Benefit shall be paid in a lump sum on the first day of the calendar month following the expiration of 45 days after the Participant's Separation from Service for any reason other than death.

(c) In the event of a Participant's Separation from Service on account of death, the Participant's Deferred Benefit shall be paid to the Participant's Beneficiary (or Beneficiaries) in a lump sum in the February of the year following the Participant's death or if earlier, on the first day of the calendar month following the expiration of 45 days after the Participant's Separation from Service as described in Section 7(b) (or, in the event of a Separation from Service of a Specified Employee not on account of death, within the 45-day period described in Section 7(d)).

(d) Distribution of the Deferred Benefit of a Participant who the Committee determines is a Specified Employee (other than the Participant's Grandfathered Benefit) shall commence within the 45-day period following the first of the month following 6 months after Separation from Service (other than a Separation from Service on account of the death of Participant). In the event of a Separation from Service of a Specified Employee on account of death, payment shall be made pursuant to Section 7(c). Payment of a Specified Employee's Grandfathered Benefit shall be made pursuant to Section 7(b).

8. Corporation's Obligation

(a) The Plan is unfunded. A Deferred Benefit is at all times solely a contractual obligation of the Corporation. A Participant and the Participant's Beneficiaries have no right, title or interest in the Participant's Deferred Benefit or any claim against it. Except according to Section 8(b), the Corporation will not segregate any funds or assets for Deferred Benefits nor issue any notes or security for the payment of any Deferred Benefit.

(b) The Corporation may establish a grantor trust and transfer to that trust shares of the Common Stock or other assets. The governing trust agreement must require a separate account to be established for each electing Participant. The governing trust agreement must also require that all Corporation assets held in trust remain at all times subject to the Corporation's creditors.

9. Control by Participant

A Participant has no control over the Participant’s Deferred Benefit except according to the Participant’s Deferral Election Form, Distribution Election Form, and Beneficiary Designation Form.

10. Claims Against Participant’s Deferred Benefit

A Deferred Benefit relating to a Participant under this Plan is not subject in any manner to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance, or charge, and any attempt to do so is void. A Deferred Benefit is not subject to attachment or legal process for a Participant’s debts or other obligations. Nothing contained in this Plan gives any Participant any interest, lien or claim against any specific asset of the Corporation. A Participant or the Participant’s Beneficiary has no rights other than as a general creditor. The Plan shall not recognize or give effect to any domestic relations order attempting to alienate, transfer or assign any Deferred Benefits.

11. Amendment or Termination

This Plan may be altered, amended, suspended, or terminated at any time by the Committee, provided that with respect to 409A Benefits such action shall conform to the requirements of Code Section 409A. No future amendment to the Plan shall apply to Grandfathered Benefits to the extent such provision or amendment would constitute a “material modification” within the meaning of Code Section 409A with respect to the Grandfathered Benefits unless such amendment expressly indicates otherwise.

12. Administration

The Committee shall have the full and exclusive power and authority to administer this Plan and to take all actions that are specifically contemplated hereby or are necessary or appropriate in connection with the administration hereof. The Committee shall also have full and exclusive power to interpret this Plan, to adopt such rules, regulations and guidelines for carrying out this Plan as it may deem necessary or proper, and to delegate some or all of its authority or responsibilities under this Plan to any other person or entity. The Committee may correct any defect or supply an omission or reconcile any inconsistency in this Plan in the manner and to the extent the Committee deems necessary or desirable to further the Plan purposes. Any decision of the Committee in the interpretation and administration of this Plan shall lie within its sole and absolute discretion and shall be final, conclusive and binding on all parties concerned. The provisions of this Section 12 are subject to the terms of the Applicable Equity Plan. To the extent any provision of this Plan conflicts with the express terms of the Applicable Equity Plan, the terms of the Applicable Equity Plan shall control and, if necessary, the applicable provisions of this Plan shall be hereby deemed amended so as to carry out the purpose and intent of the Applicable Equity Plan.

13. Notices

Notices and elections under this Plan may be in writing or in electronic format. A notice or election is deemed delivered if it is delivered personally or if it is mailed by registered or certified mail or via electronic delivery to the person at the individual’s last known business address or electronic mail address.

14. Waiver

The waiver of a breach of any provision in this Plan does not operate as and may not be construed as a waiver of any later breach.

15. Construction

This Plan is created, adopted, maintained and governed according to the laws of the state of Delaware. Headings and captions are only for convenience; they do not have substantive meaning. If a provision of this Plan is not valid or not enforceable, the validity or enforceability of any other provision is not affected. Use of one gender includes all, and the singular and plural include each other. This Plan is intended to conform to the requirements of Code Section 409A and shall be interpreted accordingly.

16. Effective Date

The original effective date of the Plan is the Distribution Date, as defined in the Separation and Distribution Agreement among Marathon Oil Corporation, Marathon Oil Company and Marathon Petroleum Corporation, dated as of May 25, 2011, as such agreement may be amended. This Plan was amended and restated effective December 3, 2012 and has been further amended and restated effective January 1, 2019.

(Back To Top)

Section 5: EX-10.76 (EXHIBIT 10.76)

Exhibit 10.76

Conversion Notice

Effective October 1, 2018, Andeavor was acquired by Marathon Petroleum Corporation ("MPC") by merger, with Andeavor LLC (also referred to here as "Andeavor") being the surviving corporate entity. This transaction was the "Merger." In connection with the Merger, MPC and Andeavor filed relevant materials with the U.S. Securities and Exchange Commission (the "SEC"), including MPC's registration statement on Form S-4 (the "Registration Statement") that includes a definitive joint proxy statement/prospectus and was declared effective by the SEC on August 3, 2018. You may obtain the documents free of charge at the SEC's website, www.sec.gov, from MPC at its website, www.marathonpetroleum.com, or by contacting MPC's Investor Relations at 419.421.2414.

As a result of and at the effective time of the Merger, various outstanding equity and equity-type awards were converted. Awards under the Andeavor Amended and Restated 2011 Long-Term Incentive Plan ("2011 LTIP") and the Tesoro Corporation 2006 Long-Term Incentive Plan ("2006 LTIP"), and various inducement option awards granted by Andeavor, were converted as explained below. This notice applies to you, as applicable to the type(s) of equity and/or equity-type awards you may hold under the 2011 LTIP and/or the 2006 LTIP and/or as the holder of any inducement option awards.

1. Andeavor Market Stock Unit Awards under the 2011 LTIP (each an "Andeavor MSU").

Each outstanding Andeavor MSU in respect of Andeavor common stock was adjusted as follows:

- first, to account for the effect of the Merger, the Andeavor MSU was converted into a time-based restricted stock unit ("RSU") award with the number of restricted stock units earned based on the greater of (i) the target number of MSUs or (ii) actual performance at the time of the Merger, with actual performance determined by the multiplying factor of the average closing stock price for the 30 trading days prior to the Merger over the average closing stock price for the 30 trading days prior to the Grant Date, capped at 200%; and

- second, converted to an award denominated in shares of MPC common stock with the number of shares of MPC common stock covered by the award as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award.

The number of converted Andeavor MSUs was determined by Andeavor's Compensation Committee in consultation with the Chief Executive Officer of MPC and in accordance with the Andeavor MSU award agreements. The number of RSUs under the converted Andeavor MSU is reflected in the award holder's Fidelity Stock Plan account.

2. Andeavor Performance Share Awards under the 2011 LTIP (each an "Andeavor PSA").

Each outstanding Andeavor PSA in respect of Andeavor common stock was adjusted as follows:

- first, to account for the effect of the Merger, converted into a time-based Andeavor RSU award with the number of RSUs earned based on the greater of (i) the target number of RSUs or (ii) actual performance at the time of the Merger; and

- second, converted the award to an award denominated in shares of MPC common stock and calculated the number of shares of MPC common stock covered by the award as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award.

The number of converted Andeavor PSAs was determined by Andeavor's Compensation Committee in consultation with the Chief Executive Officer of MPC and in accordance with the Andeavor PSA award agreements. The number of RSUs under the converted Andeavor PSA is reflected in the award holder's Fidelity Stock Plan account.

3. Andeavor Restricted Stock Unit Awards under the 2011 LTIP (each an "Andeavor RSU").

Each outstanding Andeavor RSU in respect of Andeavor common stock was adjusted as follows:

- first, to account for the effect of the Merger, converted into a time-based Andeavor RSU award; and

- second, converted the award to an award denominated in shares of MPC common stock and calculated the number of shares of MPC common stock covered by the award as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award.

The number of RSUs under the converted Andeavor RSU is reflected in the award holder's Fidelity Stock Plan account.

4. Andeavor Restricted Stock Awards under the 2011 LTIP (each an "Andeavor RSA").

Each outstanding Andeavor RSA in respect of Andeavor common stock was adjusted by converted the award to an award denominated in shares of MPC common stock and calculated the number of shares of MPC common stock covered by the award as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award.

The number of restricted shares of MPC common stock under the converted Andeavor RSA is reflected in the award holder's Fidelity Stock Plan account.

5. Andeavor Option Awards under the 2006 LTIP (each an "Andeavor Option").

Each outstanding Andeavor Option in respect of Andeavor common stock was adjusted as follows:

- first, to account for the effect of the Merger, converted into an award of nonqualified stock options to purchase MPC common stock;

- second, the number of shares of MPC common stock covered by the converted award was calculated as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award; and

- third, the exercise price per share of the converted award was set an amount equal to (rounded up to the nearest whole cent) (a) the exercise price per share applicable to the award divided by (b) 1.87.

The exercise price and number of shares of MPC common stock covered by the converted Andeavor Option is reflected in the award holder's Fidelity Stock Plan account.

6. Andeavor Inducement Option Awards (each an "Andeavor Inducement Option").

Each outstanding Andeavor Inducement Option in respect of Andeavor common stock was adjusted as follows:

- first, to account for the effect of the Merger, converted into an award of nonqualified stock options to purchase MPC common stock;

- second, the number of shares of MPC common stock covered by the converted award was calculated as the product (rounded down to the nearest whole number) of (a) 1.87 multiplied by (b) the number of shares of Andeavor common stock covered by the award; and

- third, the exercise price per share of the converted award was set an amount equal to (rounded up to the nearest whole cent) (a) the exercise price per share applicable to the award divided by (b) 1.87.

The exercise price and number of shares of MPC common stock covered by the converted Andeavor Inducement Option is reflected in the award holder's Fidelity Stock Plan account.

Terms of Converted Awards.

Each converted continues to be governed by the underlying award agreement, as modified by this document. Generally, each such converted award differs from the related award prior to its conversion in the following ways, as applicable to the specific award type as based on the original award's provisions:

1. The Andeavor MSUs and Andeavor PSAs are now time-based RSU awards denominated in shares of MPC common stock, which means that the converted award represents the right to receive a specified number of shares of MPC common stock upon the satisfaction of the time-based vesting and continuous employment criteria set forth in the award agreement, but it is no longer subject to adjustment based on stock price or the achievement of any other performance criteria described in the award agreement.

2. The Merger constituted a “Change in Control” as defined in the applicable award and the protections contained in the award that apply following a Change in Control are now in effect for the duration specified in the award, to the extent not otherwise modified by any separate agreement entered into by the award holder and MPC and any of its affiliates.

3. References to any “severance plan sponsored by the Company” or similar phrases in the applicable award will include severance plans sponsored by MPC and its affiliates, including Andeavor.

4. You will not be in violation of the restrictive covenant (if any) contained in an applicable award by providing the services prohibited in the restrictive covenant to MPC or MPLX LP.

5. Any notices related to a converted award should be directed to the following:

Marathon Petroleum Company LP
539 South Main Street
Findlay, OH 45840
Attention: Jonathan M. Osborne

For the avoidance of doubt (a) if your employment transfers to MPC or its affiliates, that will not be considered a termination of employment or ceasing to be an employee of Andeavor or its subsidiaries for purposes of the applicable converted award and active employment with MPC or its affiliates will be considered active employment with Andeavor and its subsidiaries for purposes of the applicable converted award and (b) the Administrator of each converted award is the Compensation Committee of the Board of Directors of MPC.

(Back To Top)

Section 6: EX-10.77 (EXHIBIT 10.77)

Exhibit 10.77

**FIRST AMENDMENT TO
FOURTH AMENDED AND RESTATED OMNIBUS AGREEMENT**

This First Amendment to the Fourth Amended and Restated Omnibus Agreement (this “Amendment”) is entered into as of 00:01 a.m. Eastern Standard Time on January 1, 2019, by and among Andeavor LLC, a Delaware limited company (“Andeavor”), on behalf of itself and the other Andeavor Entities (as defined herein), Tesoro Refining & Marketing Company LLC, a Delaware limited liability company and formerly known as Tesoro Refining and Marketing Company (“TRMC”), Tesoro Companies, Inc., a Delaware corporation (“Tesoro Companies”), Tesoro Alaska Company LLC, a Delaware limited liability company and formerly known as Tesoro Alaska Company (“Tesoro Alaska”), Andeavor Logistics LP, a Delaware limited partnership (the “Partnership”), Tesoro Logistics GP, LLC, a Delaware limited liability company (the “General Partner” and together with Andeavor, the Andeavor Entities, TRMC, Tesoro Companies, Tesoro Alaska and the Partnership, the “Original Parties”), and Marathon Petroleum Company LP, a Delaware limited partnership (“MPCLP”). The above-named entities are sometimes referred to in this Amendment each as a “Party” and collectively as the “Parties.” Capitalized terms used and not otherwise defined in this Amendment shall have the meanings ascribed to such terms in the Omnibus Agreement (as that term is defined below).

WHEREAS, the Original Parties are parties to that certain Fourth Amended and Restated Omnibus Agreement, dated as of October 30, 2017 (the “Omnibus Agreement”);

WHEREAS, pursuant to Section 9.5 of the Omnibus Agreement, the Omnibus Agreement may be amended by the written agreement of all of the Original Parties; and

WHEREAS, the Parties, including all of the Original Parties, wish to amend the Omnibus Agreement as set forth herein.

NOW, THEREFORE, in consideration of the promises, mutual covenants and agreements hereinafter set forth, and for other good and valuable consideration, as set forth herein, the Parties agree as follows:

1. The preamble to the Omnibus Agreement is hereby amended to add MPCLP as a party to the Omnibus Agreement, and MPCLP, by its signature below, agrees to be bound by, and subject to, all of the covenants, terms and conditions of the Omnibus Agreement as though an original party thereto.

2. Section 4.1 in the Omnibus Agreement is hereby amended and restated in its entirety as follows:
   (a) MPCLP agrees to provide, for the Partnership Group's benefit, centralized corporate services that Andeavor and the applicable Andeavor Entities, or MPCLP, as applicable, have traditionally provided in connection with the Assets including, without limitation, the general and administrative services listed on Schedule IV to this Agreement. As consideration for such services, the Partnership will pay MPCLP a monthly administrative fee in the amount set forth in Schedule VIII to this Agreement (the "Administrative Fee"), payable on or before the tenth business day of each month, commencing in the first month following the date hereof. Andeavor may increase the

Administrative Fee on July 1 of each year, commencing on July 1, 2018, by a percentage equal to the positive change, if any, in the CPI-U (All Urban Consumers) for the prior calendar year, rounded to the nearest one-tenth (1/10) of one percent (1%), or to reflect any increase in the cost of providing centralized corporate services to the Partnership Group due to changes in any law, rule or regulation applicable to MPCLP or the Partnership Group, including any interpretation of such laws, rules or regulations.

(b) At the end of each calendar year, the Partnership will have the right to submit to MPCLP a proposal to reduce the amount of the Administrative Fee for that year if the Partnership believes, in good faith, that the centralized corporate services performed by MPCLP for the benefit of the Partnership Group for the year in question do not justify payment of the full Administrative Fee for that year. If the Partnership submits such a proposal to MPCLP, MPCLP agrees that it will negotiate in good faith with the Partnership to determine if the Administrative Fee for that year should be reduced and, if so, the amount of such reduction. If the Parties agree that the Administrative Fee for that year should be reduced, then Andeavor shall promptly pay to the Partnership the amount of any reduction for that year.

(c) The Partnership Group shall reimburse Andeavor and MPCLP, as applicable, without duplication of any reimbursements made pursuant to Section 7.4 of the Partnership Agreement, for all other direct or allocated costs and expenses incurred by the Andeavor Entities or MPCLP on behalf of the Partnership Group, including, but not limited to the following; provided, however, that the costs and expenses described in subsections (i) through (vi) below shall not apply with respect to employees of MPCLP that are providing the services listed on Schedule IV:

(i) salaries of employees of MPCLP, to the extent, but only to the extent, such employees perform services for the Partnership Group, *provided* that for employees that do not devote all of their business time to the Partnership Group, such expenses shall be based on the annual weighted average of time spent and number of employees devoting services to the Partnership Group;

(ii) except as otherwise provided in Section 4.1(c)(vi) below, the cost of employee benefits relating to employees of MPCLP, including 401(k), pension, bonuses and health insurance benefits (but excluding Marathon Petroleum Corporation ("**MPC**") stock-based compensation expense), to the extent, but only to the extent, such employees perform services for the Partnership Group, *provided* that for employees that do not devote all of their business time to the Partnership Group, such expenses shall be based on the annual weighted average of time spent and number of employees devoting their services to the Partnership Group;

(iii) any expenses incurred or payments made by MPCLP or the applicable Andeavor Entities for insurance coverage with respect to the Assets or the business of the Partnership Group;

(iv) all expenses and expenditures incurred by MPCLP or the applicable Andeavor Entities as a result of the Partnership becoming and continuing as a publicly traded entity, including, but not limited to, costs associated with annual and quarterly reports, independent auditor fees, partnership governance and compliance, registrar and transfer agent fees, tax return and Schedule K-1 preparation and distribution, legal fees and independent director compensation;

(v) all sales, use, excise, value added or similar taxes, if any, that may be applicable from time to time with respect to the services provided by MPCLP to the Partnership Group pursuant to Section 4.1(a);

(vi) any severance or similar amounts ("Severance Amounts") due to the President of the General Partner or the Vice President, Operations of the General Partner in the event of a Change of Control (or similar term, in each case as defined in the applicable management stability agreement) of Andeavor under the terms of their respective management stability agreements with Andeavor or MPCLP, *provided* that such reimbursement shall be based on the percentage of time spent by such employee on the business of the Partnership Group during the last completed payroll period immediately preceding the date of such Change of Control. Notwithstanding anything in this Agreement to the contrary, in no event will the Partnership Group reimburse Andeavor or MPCLP for, or otherwise in any way be responsible for, (A) any Severance Amounts due to any employee of MPCLP or the applicable Andeavor Entities (other than the President of the General Partner or the Vice President, Operations of the General Partner) in the event of a Change of Control (or similar term, in each case as defined in the applicable Employment Agreement) of Andeavor, or (B) any Andeavor or MPC stock-based compensation expense related to accelerated vesting of Andeavor or MPC equity awards. For the purposes of this Section 4.1(c)(vi), the term "Employment Agreement" shall include any employment agreement, management stability agreement or similar agreement between Andeavor or MPCLP and any employee of MPCLP or the applicable Andeavor Entities; and

(vii) any other expenses listed on Schedule IV and identified as applicable to this clause (vii).

Such reimbursements shall be made on or before the tenth business day of the month following the month such costs and expenses are incurred or accrued. For the avoidance of doubt, the costs and expenses set forth in Section 4.1(c) shall be paid by the Partnership Group in addition to, and not as a part of or included in, the Administrative Fee.

3. Section 9.2 of the Omnibus Agreement is amended to add the following notice information at the end of the section:

If to MPCLP:

Marathon Petroleum Company LP
539 South Main St.
Findlay, OH 45840
Attn: General Counsel

4. Section 9.3 of the Omnibus Agreement is amended to add ", MPCLP" after "Andeavor" in the first sentence of such section.

5. Schedule 4.1(a) to the Omnibus Agreement is amended to replace “Andeavor” with “MPCLP” in the first clause.

6. The provisions of Article IX of the Omnibus Agreement, as amended by this Amendment, are incorporated herein by reference and apply to the terms of this Amendment *mutatis mutandis*.

[Signature page follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be executed by as of the date first set forth above.

ANDEAVOR LLC

By: /s/ Molly R. Benson
Name: Molly R. Benson
Title: Vice President and Secretary

TESORO REFINING & MARKETING COMPANY LLC

By: /s/ Molly R. Benson
Name: Molly R. Benson
Title: Vice President and Secretary

TESORO COMPANIES, INC.

By: /s/ Molly R. Benson
Name: Molly R. Benson
Title: Vice President and Secretary

TESORO ALASKA COMPANY LLC

By: /s/ Molly R. Benson
Name: Molly R. Benson
Title: Vice President and Secretary

ANDEAVOR LOGISTICS LP

By: Tesoro Logistics GP, LLC, its general partner

By: /s/ Don J. Sorensen
Don J. Sorensen
President

TESORO LOGISTICS GP, LLC

By: /s/ Don J. Sorensen
Don J. Sorensen
President

MARATHON PETROLEUM COMPANY LP

By:	/s/ Molly R. Benson
Name:	Molly R. Benson
Title:	Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary

Signature Page to First Amendment

(Back To Top)

Section 7: EX-10.86 (EXHIBIT 10.86)

Exhibit 10.86

MPLX LP
2018 INCENTIVE COMPENSATION PLAN

MPC NON-EMPLOYEE DIRECTOR PHANTOM UNIT AWARD POLICY

(Amended and Restated effective as of January 1, 2019)

Pursuant to this MPC Non-Employee Director Phantom Unit Award Policy (the "Award Policy") and the MPLX LP 2018 Incentive Compensation Plan (the "Plan"), MPLX GP LLC, a Delaware limited liability company (the "Company"), the general partner of MPLX LP, a Delaware limited partnership (the "Partnership"), hereby grants to each of the non-employee directors of Marathon Petroleum Corporation ("MPC"), the parent corporation of the Company, serving on the Board of Directors of MPC on the Grant Date (each a "Participant"), on the first trading day of each calendar quarter (each a "Grant Date"), that number of Phantom Units determined by dividing $4,375 by the closing market price of a Common Unit of the Partnership as reported on the Consolidated Tape System on the Grant Date. The number of Phantom Units awarded is subject to proration in the event an MPC non-employee director commences service on the MPC Board of Directors during the applicable calendar quarter (in which case, pro-ration will be calculated based on the number of days that the Participant is expected to serve on the MPC Board of Directors during the applicable calendar quarter relative to the total days in such calendar quarter, and the Grant Date shall be the date of the Participant's commencement of service on the MPC Board of Directors) and 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. The grants of Phantom Units under this Award Policy are subject to all of the terms, conditions and provisions of the Plan and administrative interpretations, if any, that have been adopted by the "Committee," as such term is defined in the Plan. Except as defined in this Award Policy, capitalized terms shall have the same meanings given to them under the Plan. To the extent any provision of this Award Policy conflicts with the express terms of the Plan, the terms of the Plan shall control and, if necessary, the applicable provisions of this Award Policy shall be hereby deemed amended so as to carry out the purpose and intent of the Plan. For the avoidance of doubt, Phantom Units under this Award Policy shall be subject to provisions in the Plan that are required to comply with Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and in particular: "separation from service" as used under this Award Policy shall have the same meaning as used under Section 409A of the Code; and those provisions regarding distributions to "specified employees" under Section 409A of the Code shall apply to distributions under this Award Policy.

2. Settlement of Phantom Units. The Phantom Units granted under this Award Policy shall be settled in full in the form of a Common Unit of the Partnership for each Phantom Unit subject to this Award Policy upon the earlier of the Participant's separation from service from the Company or the Participant's death.

3. Dividends and Cash Distributions. During the period of time between the Grant Date and the date the Phantom Units are settled, for any dividends and/or cash distributions paid by the Partnership on outstanding Common Units of the Partnership, the Participant shall be credited with additional Phantom Units, including any fractional Phantom Units, based on the Fair Market Value of a Common Unit of the Partnership on the date such dividend and/or cash distribution is made. Any additional Phantom Units granted pursuant to this Section shall be subject to the same terms and conditions applicable to the Phantom Units to which these dividend and/or cash distributions relate, including, without limitation, the restrictions on transfer, forfeiture, settlement and distribution provisions contained in this Award Policy or the Plan.

4. Issuance of Common Units. 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 shares of Common Units, subject to the terms and conditions applicable to the Phantom Units. Upon the settlement date as described in Paragraph 2 above, the Participant's shall be entitled to receive a number of Common Units of the Partnership equal to the total of the number of Phantom Units granted and any additional Phantom Units credited pursuant to Paragraph 3 above with any fractional Phantom Units remaining settled in cash. Such Common Units shall be issued and registered in the name of the Participant. Subject to the terms of the Plan, all amounts payable to the Participant in respect of the Phantom Units, including the issuance of Common Units of the Partnership pursuant to this Paragraph 4, shall be paid as of the first day of the calendar month following the expiration of 45 days following the settlement date. The Participant shall not have the right or be entitled to exercise any voting rights, receive cash distributions or dividends or have or be entitled to any rights as a partnership unit holder in respect of the Phantom Units until such time as the Phantom Units have been settled and corresponding Common Units of the Partnership have been issued.

5. Nonassignability. Upon the Participant's death, the Phantom Units credited to the Participant under this Award shall be transferred to the Participant's beneficiary as designated under the Marathon Petroleum Deferred Compensation Plan for Non-Employee Directors, or if no such beneficiary designation has been executed by Participant, to the Participant's estate and upon such transfer settled in Common Units of the Partnership. 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.

6. Nature of the Grant. Under this Award Policy, the Participant is not an employee of the Company, the Partnership or MPC, and this Award of Phantom Units is granted in connection with service as a Non-Employee Director on the MPC Board to the benefit of the Company and the Partnership and should not be considered in any way as compensation for, or relating in any way to, past services for the Company, the Partnership or MPC, or any affiliates or predecessors of any of the foregoing as an employee.

7. Modification of Policy. Any modification of this Award Policy shall be binding only if evidenced by resolution of the Board of the Company, provided that no modification may, without the consent of the Participant, adversely affect the rights of the Participant.

(Back To Top)

Section 8: EX-10.87 (EXHIBIT 10.87)

Exhibit 10.87

AMENDED AND RESTATED MARATHON PETROLEUM CORPORATION
2012 INCENTIVE COMPENSATION PLAN

1. *Objectives*. This Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan (this "Plan") (last amended and restated as of January 1, 2019) is adopted by Marathon Petroleum Corporation (the "Corporation") in order to retain employees and directors with a high degree of training, experience and ability; to attract new employees and directors whose services are considered particularly valuable; to encourage the sense of proprietorship of such persons; and to promote the active interest of such persons in the development and financial success of the Corporation and its Subsidiaries. These objectives are to be accomplished by making Awards under this Plan and thereby providing Participants with a proprietary interest in, and alignment with, the growth and performance of the Corporation and its Subsidiaries.

2. *Definitions*. As used herein, the terms set forth below shall have the following respective meanings:

"Administrator" means: (i) with respect to Employee Awards, the Committee, and (ii) with respect to Director Awards, the Board.

"Authorized Officer" means the Chief Executive Officer of the Corporation (or any other senior officer of the Corporation to whom he or she shall delegate the authority to execute any Award Agreement, where applicable).

"Award" means an Employee Award or a Director Award.

"Award Agreement" means any Employee Award Agreement or Director Award Agreement.

"Board" means the Board of Directors of the Corporation.

"Cash Award" means an award denominated in cash.

"Code" means the Internal Revenue Code of 1986, as amended from time to time.

"Committee" means the Compensation Committee of the Board and any successor committee to the Compensation Committee, as may be designated by the Board to administer this Plan in whole or in part.

“Common Stock” means Marathon Petroleum Corporation common stock, par value $.01 per share.

“Corporation” has the meaning set forth in paragraph 1 hereof.

“Director Award” means any Non-qualified Stock Option, Stock Appreciation Right, Stock Award, Restricted Stock Unit Award, Cash Award or Performance Award granted, whether singly, in combination or in tandem, to a Participant who is a Non-Employee Director pursuant to such applicable terms, conditions and limitations (including treatment as a Performance Award) as the Board may establish in order to fulfill the objectives of the Plan.

“Director Award Agreement” means an individual or common agreement contained within a separate plan document (in written or electronic form) setting forth the terms, conditions, and limitations applicable to a Director Award, to the extent the Board determines such agreement is necessary.

“Disability” means either (a) a condition that renders the Participant wholly and continuously disabled for a period of at least two years, to the extent that the Participant is 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; or (b) a condition for which the Participant has obtained a Social Security determination of disability.

“Dividend Equivalents” means, with respect to shares of Restricted Stock or Restricted Stock Units, with respect to which shares are to be issued at the end of the Restriction Period, an amount equal to all dividends and other distributions (or the economic equivalent thereof) that are payable to shareholders of record during the Restriction Period on a like number of shares of Common Stock granted in the Award.

“Employee” means an employee of the Corporation or any of its Subsidiaries or an individual who has agreed to become an employee of the Corporation or any of its Subsidiaries and actually becomes an employee within the following six months. However, the term “Employee” shall not include any individual who owns directly or indirectly stock possessing more than five percent (5%) of the total combined voting power or value of all classes of stock of the Corporation or any Subsidiary

“Employee Award” means any Option, Stock Appreciation Right, Stock Award, Restricted Stock Unit Award, Cash Award or Performance Award granted, whether singly, in combination or in tandem, to a Participant who is an Employee pursuant to such applicable terms, conditions and limitations (including treatment as a Performance Award) that the Committee may establish in order to fulfill the objectives of the Plan.

“Employee Award Agreement” means an agreement (in written or electronic form) setting forth the terms, conditions and limitations applicable to an Employee Award, to the extent the Committee determines such agreement is necessary or advisable.

“Equity Award” means any Option, Stock Appreciation Right, Stock Award or Performance Award (other than a Performance Award denominated in cash) granted to a Participant under the Plan.

“Executive Officer” means a “covered employee” within the meaning of Code § 162(m)(3) or any other executive officer designated by the Committee for purposes of exempting compensation payable under this Plan from the deduction limits of Code § 162(m).

“Fair Market Value” of a share of Common Stock means, as of a particular date: (i) if Common Stock is listed on a national securities exchange, the closing price per share of such Common Stock on the consolidated transaction reporting system for the principal national securities exchange on which shares of Common Stock are listed on that date, or, if there shall have been no such sale so reported on that date, on the next succeeding date on which such a sale is so reported, or, at the discretion of the Administrator, any other reasonable and objectively determinable method based on the listed price per share which reflects the price prevailing on the exchange at the time of grant; (ii) if Common Stock is not so listed but is quoted on a national securities market, the closing sales price per share of Common Stock reported on such market for such date, or, if there shall have been no such sale so reported on that date, on the next succeeding date on which such a sale is so reported; or (iii) if Common Stock is not so listed or quoted, the most recent value determined by an independent appraiser appointed by the Corporation for such purpose. For any determination of Fair Market Value, if the commitment to measure the Fair Market Value is based on the average trading price over a specified period, such period cannot extend more than 30 days before or

30 days after the grant date and such commitment must be irrevocably established for specified awards before the beginning of such period.

“Grant Date” means the effective date of the grant of an Award to a Participant pursuant to the Plan, which may be later than but shall never be earlier than the date on which the Committee (or its delegate) met or otherwise took action to effect the grant of such Award.

“Grant Price” means the price at which a Participant may exercise his or her right to receive cash or Common Stock, as applicable, under the terms of an Award.

“Incentive Stock Option” means an Option that is intended to comply with the requirements set forth in Code § 422.

“Non-Employee Director” means an individual serving as a member of the Board who is not then an Employee of the Corporation or any of its Subsidiaries.

“Non-qualified Stock Option” means an Option that is not an Incentive Stock Option.

“Option” means a right to purchase a specified number of shares of Common Stock at a specified Grant Price.

“Participant” means an Employee or Non-Employee Director to whom an Award has been granted under this Plan.

“Performance Award” means an Award made pursuant to this Plan, which Award is subject to the attainment of one or more Performance Goals.

“Performance Goal” means a standard established by the Committee to determine in whole or in part whether a Performance Award shall be earned.

“Plan” has the meaning set forth in paragraph 1 hereof.

“Recoupment Provision” means any clawback or recovery provision required by applicable law including United States federal and state securities laws or by any national securities exchange on which the Common Stock of the Corporation is listed or any applicable regulatory requirement.

“Restricted Stock” means Common Stock that is restricted or subject to forfeiture provisions.

“Restricted Stock Unit” means a unit evidencing the right to receive in specified circumstances one share of Common Stock or equivalent value (as determined by the Administrator) that is restricted or subject to forfeiture provisions.

“Restricted Stock Unit Award” means an Award in the form of Restricted Stock Units.

“Restriction Period” means a period of time beginning on the Grant Date of an Award of Restricted Stock or Restricted Stock Unit Award and ending on the date upon which the Common Stock subject to such Award, or equivalent value, is issued (if not previously issued), paid or is no longer restricted or subject to forfeiture provisions.

"Retirement" means termination of employment of an Employee on or after the time at which the Employee either (a) is eligible for retirement under the Marathon Petroleum Retirement Plan, or a successor retirement plan or (b) has attained age 50 and completed ten years of employment with the Corporation or its Subsidiaries, as applicable. However, the term Retirement does not include an event where immediately following which the Participant remains an Employee.

"Stock Appreciation Right" means a right to receive a payment, in cash or Common Stock, equal to the excess of the Fair Market Value or other specified valuation of a specified number of shares of Common Stock on the date the right is exercised over a specified Grant Price.

"Stock Award" means an Award in the form of, or denominated in, or by reference to, shares of Common Stock, including an award of Restricted Stock.

"Subsidiary" means: (i) in the case of a corporation, a "subsidiary corporation" of the Corporation as defined in Code § 424(f); and (ii) in the case of a partnership or other business entity not organized as a corporation, any such business entity of which the Corporation directly or indirectly owns 50% or more of the voting, capital or profits interests (whether in the form of partnership interests, membership interests, or otherwise).

3. *Eligibility*. All Employees are eligible for Employee Awards under this Plan in the sole discretion of the Committee. All Non-Employee Directors of the Corporation are eligible for Director Awards under this Plan in the sole discretion of the Board.

4. *Common Stock Available for Awards*. Subject to the provisions of paragraph 14 hereof, there shall be available for Awards under this Plan granted wholly or partly in Common Stock (including rights or options that may be exercised for or settled in Common Stock) an aggregate of 50 million shares of Common Stock. No more than 20 million shares of Common Stock may be the subject of Awards that are not Options or Stock Appreciation Rights. In the sole discretion of the Committee, 20 million shares of Common Stock may be granted as Incentive Stock Options.

(a) In connection with the granting of an Option or other Award, the number of shares of Common Stock available for issuance under this Plan shall be reduced by the number of shares of Common Stock in respect of which the Option or Award is granted or denominated. For example, upon the grant of stock-settled Stock Appreciation Rights, the number of shares of Common Stock available for issuance under this Plan shall be reduced by the full number of Stock Appreciation Rights granted, and the number of shares of Common Stock available for issuance under this Plan shall not thereafter be increased upon the exercise of the Stock Appreciation Rights and settlement in shares of Common Stock, even if the actual number of shares of Common Stock delivered in settlement of the Stock Appreciation Rights is less than the full number of Stock Appreciation Rights exercised. However, Awards that by their terms do not permit settlement in shares of Common Stock shall not reduce the number of shares of Common Stock available for issuance under this Plan.

(b) Any shares of Common Stock delivered in payment of the purchase price in connection with the exercise of any Award, any shares of Common Stock repurchased on the open market with proceeds received by the Corporation from the exercise of any Award, any shares of Common Stock delivered or withheld to pay tax withholding obligations or otherwise under the Plan and any shares of Common Stock not issued upon the net settlement or net exercise of Stock Appreciation Rights shall not be added to and shall not increase the number of shares of Common Stock available for issuance under the Plan.

(c) Whenever any outstanding Option or other Award (or portion thereof) expires, is cancelled or forfeited or is otherwise terminated for any reason without having been exercised or payment having been made in the form of shares of Common Stock, the number of shares of Common Stock available for issuance under this Plan shall be increased by the number of shares of Common Stock allocable to the expired, forfeited, cancelled or otherwise terminated Option or other Award (or portion thereof). To the extent that any Award is forfeited, or any Option or Stock Appreciation Right terminates, expires or lapses without being exercised, the shares of Common Stock subject to such Awards will not be counted as shares delivered under this Plan.

(d) Shares of Common Stock delivered under the Plan in settlement of an Award issued or made: (i) upon the assumption, substitution, conversion or replacement of outstanding awards under a plan or arrangement of an acquired entity; or (ii) as a post-transaction grant under such a plan or arrangement of an acquired entity, shall not reduce or be counted against the maximum number of shares of Common Stock available for delivery under the Plan, to the extent that the exemption for transactions in connection with mergers and acquisitions from the shareholder approval requirements of the New York Stock Exchange for equity compensation plans applies.

(e) Awards valued by reference to Common Stock that may be settled in equivalent cash value will count as shares of Common Stock delivered to the same extent as if the Award were settled in shares of Common Stock.

Consistent with the requirements specified in this paragraph 4, the Committee may from time to time adopt and observe such procedures concerning the counting of shares against this Plan maximum as it may deem appropriate, including rules more restrictive than those set forth above to the extent necessary to satisfy the requirements of any national securities exchange on which the Common Stock is listed or any applicable regulatory requirement. The Committee and the appropriate officers of the Corporation shall be authorized to, from time to time, take all such actions as any of them may determine are necessary or appropriate to file any documents with governmental authorities, stock exchanges and transaction reporting systems as may be required to ensure that shares of Common Stock are available for issuance pursuant to Awards.

5. *Administration*.

(a) *Authority of the Committee*. Subject to the terms of this Plan the Committee shall have the full and exclusive power and authority to administer this Plan with respect to Employee Awards and to take all actions that are specifically contemplated by this Plan or are necessary or appropriate in connection with the administration of this Plan. The Committee shall also have the full and exclusive authority to interpret this Plan and outstanding Employee Award Agreements and to adopt such rules, regulations and guidelines for carrying out this Plan as it may deem necessary or appropriate and the authority to amend this plan without further shareholder approval: (i) to comply with applicable law including United States federal and state securities laws or by any national securities exchange on which the common stock of the Corporation is listed or any applicable regularity requirements, or (ii) in any manner that is not considered to be a material revision of the Plan requiring shareholder approval. Amendments pursuant to this paragraph are permitted only to the extent that such amendments do not adversely affect the rights of any Participant under any Award previously granted to such Participant without the consent of such Participant. The Committee may correct any defect or supply any omission or reconcile any inconsistency in this Plan or in any Employee Award Agreement in the manner and to the extent the Committee deems necessary or desirable to further Plan purposes. Any decision of the Committee in the interpretation and administration of this Plan or any Employee Award Agreement shall lie within its sole discretion and shall be final, conclusive and binding on all parties concerned. All decisions and selections made by the Committee pursuant to the provisions of this Plan shall be made by a majority of its members unless subject to the Committee’s delegation of authority pursuant to paragraph 6 herein. The powers of the Committee shall include the authority (within the limitations described in this Plan):

- to determine the time when Employee Awards are to be granted and any conditions that must be satisfied before an Employee Award is granted;
- except as otherwise provided in paragraphs 7(a) and 12, to modify the terms of Employee Awards made under this Plan; and
- to determine the guidelines and/or procedures for the payment or exercise of Employee Awards.

(b) *Limitation of Liability*. No member of the Board or the Committee or officer of the Corporation to whom the Board or the Committee has delegated authority in accordance with the provisions of paragraph 6 of this Plan shall be liable for anything done or omitted to be done by him or her by any member of the Board or the Committee or by any officer of the Corporation in connection with the performance of any duties under this Plan, except for his or her own willful misconduct or as expressly provided by statute.

(c) *Authority of the Board*. The Board shall have the same powers, duties and authority to administer and interpret the Plan and all Director Awards outstanding under the Plan as the Committee retains with respect to Employee Awards, as described above.

(d) *Prohibition on Repricing of Awards*. No Option or Stock Appreciation Right may be repriced, replaced, regranted through cancellation or modified without shareholder approval (except as contemplated in paragraph 14 of this Plan), if the effect would be to reduce the exercise price for the shares underlying such Option or Stock Appreciation Right.

(e) *Prohibition on Buy-out of Awards*. No Option or Stock Appreciation Right may be bought back with cash without shareholder approval.

6. *Delegation of Authority*. The Committee may delegate to a subcommittee, the Chief Executive Officer or other senior officers of the Corporation, or to another committee of the Board, its duties or authority under this Plan with respect to Employee Awards, subject to such conditions or limitations as the Committee may establish; provided, however, that to the extent the Committee determines that it is necessary or desirable to exempt compensation payable under this Plan from the deduction limits of Code § 162(m), the Committee will carry out such duties as may be required under Code § 162(m). The Board may delegate to the Committee or to another committee of the Board, its administrative functions under this Plan with respect to Director Awards subject to such conditions or limitations as the Board may establish. The Committee or the Board or their delegates, as applicable, may engage or authorize engagement of a third party administrator to carry out administrative functions under the Plan.

7. *Employee Awards*.

(a) The Committee shall determine the type or types of Employee Awards to be made under this Plan and shall designate from time to time the Participants who are to be the recipients of such Employee Awards. Each Employee Award shall be evidenced in either an individual Employee Award Agreement or within a separate plan, policy, agreement or other written document, which shall reflect any vesting conditions or restrictions imposed by the Committee covering a period of time specified by the Committee and shall also contain such terms, conditions and limitations as shall be determined by the Committee in its sole discretion, including but not limited to applicable Recoupment Provisions. Where signature or electronic acceptance by the recipient of an award of the Employee Award Agreement is required, any such awards for which the Employee Award Agreement is not signed or electronically accepted within 11 months of the grant date shall be forfeited. Employee Awards may consist of those listed in this paragraph 7(a) and may be granted singly, in combination or in tandem. Employee Awards may also be made in combination or in tandem with, in replacement of, or as alternatives to, grants or rights under this Plan or any other plan of the Corporation or any of its Subsidiaries, including the plan of any acquired entity; provided that, except as contemplated in paragraph 14 hereof, without shareholder approval, no Option or Stock Appreciation Right may be issued in exchange for the cancellation of an Option or Stock Appreciation Right with a higher exercise price nor may the exercise price of any Option or Stock Appreciation Right be reduced. No Option or Stock Appreciation Right may include provisions that “reload” or “recycle” the Option or Stock Appreciation Right upon exercise or that extend the term of an Option or Stock Appreciation Right beyond ten years from its Grant Date. All or part of an Employee Award may be subject to conditions established by the Committee, which may include, but are not limited to, continuous service with the Corporation and its Subsidiaries and achievement of specific Performance Goals. Upon the termination of employment by a Participant who is an Employee, any unexercised, deferred, unvested, or unpaid Awards shall be treated as set forth in the applicable Employee Award Agreement.

(i) *Option*. An Employee Award may be in the form of an Option. An Option awarded to an Employee pursuant to this Plan may consist of an Incentive Stock Option or a Non-Qualified Stock Option and will be designated accordingly at the time of grant. The Grant Price of an Option shall be not less than the Fair Market Value of the Common Stock on the Grant Date. The term of an Option shall not exceed ten years from the Grant Date.

(ii) *Stock Appreciation Right*. An Employee Award may be in the form of a Stock Appreciation Right. The Grant Price for a Stock Appreciation Right shall not be less than the Fair Market Value of the Common Stock on the Grant Date. Any Stock Appreciation Right which is not a Performance Award shall have a minimum Restriction Period of three years from the Grant Date. However, (i) the Committee (or its designee) may provide for earlier vesting following a change of control or other specified events involving the Corporation or upon an Employee’s termination of employment by reason of death, Disability or Retirement; and (ii) vesting of a Stock Appreciation Right may occur incrementally over the three-year minimum Restricted Period, provided no portion of any Stock Appreciation Right Award will have a Restriction Period of less than one year. The term of a Stock Appreciation Right shall not exceed ten years from the Grant Date.

(iii) *Restricted Stock*. An Employee Award may be in the form of Restricted Stock. Any Restricted Stock awarded which is not a Performance Award shall have a minimum Restriction Period of three years from the Grant Date, provided that: (i) the Committee (or its designee) may provide for earlier vesting following a change of control or other specified events involving the Corporation or upon an Employee’s termination of employment by reason of death, Disability or Retirement; (ii) vesting of a Restricted Stock Award may occur incrementally over the three-year minimum Restricted Period, provided no portion of any Restricted Stock Award will have a Restriction Period of less than one year; and (iii) no more than three percent (3%) of the total awards authorized under this Plan shall be available and are permitted to be granted to executives with shorter vesting periods than one year. Additionally employees who are officers at the time a Restricted Stock Award is made will have an additional one year holding after the end of the Restriction Period before such shares (net of shares used to satisfy applicable tax withholding) may be sold.

(iv) *Restricted Stock Unit Award*. An Employee Award may be in the form of a Restricted Stock Unit Award. Any Restricted Stock Unit Award which is not a Performance Award shall have a minimum Restriction Period of three years from the Grant Date, provided that: (i) the Committee (or its designee) may provide for earlier vesting following a change of control or other specified events involving the Corporation or upon an Employee's termination of employment by reason of death, Disability or Retirement; (ii) vesting of a Restricted Stock Unit Award may occur incrementally over the three-year minimum Restricted Period, provided, no portion of any Restricted Stock Unit Award will have a Restriction Period of less than one year; and (iii) no more than three percent (3%) of the total awards authorized under this plan shall be available and are permitted to be granted with shorter vesting periods than one year to executives. Additionally employees who are officers at the time a Restricted Stock Unit Award is made that will settle in full-value shares will have an additional one year holding after the end of the Restriction Period before such shares (net of shares used to satisfy applicable tax withholding) may be sold.

(v) *Rights of Holders of Restricted Stock and Restricted Stock Units.* Unless otherwise provided in the Award Agreement, beginning on the date of grant of the Restricted Stock Award and subject to acceptance of the Award Agreement, the Participant shall become a shareholder of the Corporation with respect to all Shares subject to the Award Agreement and shall have all of the rights of a shareholder, including the right to vote such Shares and the right to receive distributions made with respect to such shares. A Participant receiving a Restricted Stock Unit Award shall not possess voting rights with respect to such Award. Any shares or any other property (other than cash) distributed as a dividend or otherwise with respect to any Restricted Stock Award or Restricted Stock Unit Award as to which the restrictions have not yet lapsed shall be subject to the same restrictions as such Restricted Stock Award or Restricted Stock Unit Award.

(vi) *Performance Award*. Without limiting the type or number of Employee Awards that may be made under the other provisions of this Plan, an Employee Award may be in the form of a Performance Award. Any Stock Award which is a Performance Award shall have a minimum Restriction Period of one year from the Grant Date, provided that the Committee (or its designee) may provide for earlier vesting following a change of control or other specified events involving the Corporation, or upon a termination of employment by reason of death, Disability or Retirement. Additionally employees who are officers at the time a Performance Award that will settle in full-value shares is made will have an additional one year holding after the Performance Period ends and the Performance Award is settled before such shares may be sold. The Committee shall set Performance Goals in its sole discretion which, depending on the extent to which they are met, may determine the value and/or amount of Performance Awards that will be paid out to the Participant and/or the portion of a Performance Award that may be exercised. A Performance Goal may include one or more of the following and need not be the same for each Participant:

- revenue and income measures (which include revenue, gross margin, income from operations, net income, net sales, earnings per share, earnings before interest, taxes, depreciation and amortization, earnings before interest, taxes and amortization, earnings before interest and taxes and economic value added);
- expense measures (which include costs of goods sold, selling, finding and development costs, general and administrative expenses and overhead costs);
- operating measures (which include refinery throughput, mechanical availability, productivity, operating income, funds from operations, product quality, cash from operations, after-tax operating income, market share, margin and sales volumes);
- margins (which include crack spread measures);

- refined product measures;
- cash management and cash flow measures (which include net cash flow from operating activities, working capital, receivables management and related customer terms);
- liquidity measures (which include earnings before or after the effect of certain items such as interest, taxes, depreciation and amortization, improvement in or attainment of working capital levels and free cash flow);
- leverage measures (which include debt-to-equity ratio, debt reduction and net debt);
- market measures (which include market share, stock price, growth measure, total shareholders return, share price performance, return on equity, return on invested capital and return on assets and market capitalization measures);
- return measures (which include return on equity, return on assets and return on invested capital);
- corporate value and sustainability measures (which include compliance, safety, environmental and personnel matters);
- project completion measures (which may include measures regarding whether interim milestones regarding budgets and deadlines are met, as well as whether projects are completed on time and on or under budget);
- other measures such as those relating to acquisitions, dispositions or customer satisfaction; and

Unless otherwise stated, such a Performance Goal need not be based upon an increase or positive result under a particular business criterion and could include, for example, maintaining the status quo, performance relative to a peer group determined by the Committee, or limiting economic losses (measured, in each case, by reference to specific business criteria). In interpreting Plan provisions applicable to Performance Goals and qualified Performance Awards, this Plan is intended to conform with Code § 162(m), including, without limitation, Treasury Regulations § 1.162-27 (e), as to grants pursuant to this subsection and the Committee in establishing such goals and interpreting the Plan shall be guided by such provisions. The Committee may also substitute a Performance Goal or peer company(ies) during a measurement period or eliminate them and reallocate such weighting to the remaining Performance Goals if it concludes that the original goal(s) cannot be accurately measured or are no longer valid. Prior to the payment of any compensation based on the achievement of Performance Goals applicable to qualified Performance Awards, the Committee must certify in writing that applicable Performance Goals and any of the material terms thereof were, in fact, satisfied. Subject to the foregoing provisions, the terms, conditions and limitations applicable to any Performance Awards intended to qualify as performance-based compensation for purposes of Code § 162(m) shall be determined by the Committee to the extent required by Code § 162(m).

The Committee shall adjust the Performance Goals (either up or down) and the level of the Performance Award that a Participant may earn under this Plan if it determines that the occurrence of external changes or other unanticipated business conditions have materially affected the fairness of the goals and/or have unduly influenced the Corporation’s ability to meet them, including without limitation, events such as material acquisitions, force majeure events, unlawful acts committed against the Corporation or its property, labor disputes, legal mandates, asset write-downs, litigation, claims, judgments or settlements, the effect of changes in tax law or other such laws or provisions affecting reported results, accruals for reorganization and restructuring programs, changes in the capital structure of the Corporation and extraordinary accounting changes; provided, however, that Performance Awards granted to Executive Officers shall be adjusted only to the extent permitted under Code § 162(m). In addition, Performance Goals and Performance Awards shall be calculated without regard to any changes in accounting standards or codifications that may be required by the Financial Accounting Standards Board after such Performance Goals are established.

(vii) Notwithstanding anything to the contrary contained in this Plan, no Participant who is an Employee may be granted, during any one-year period, Employee Awards collectively consisting of: (i) Options or Stock Appreciation Rights that are exercisable for more than 12 million shares of Common Stock; or (ii) Stock Awards covering or relating to more than 4 million shares of Common Stock (the limitation in clauses (i) and (ii) being collectively referred to as the “Stock-based Awards Limitations”). No Plan Participant who is an Employee may be granted Employee Awards consisting of cash (including Cash Awards that are granted as Performance Awards) in respect of any calendar year having a value determined on the Grant Date in excess of $20 million.

(viii) *Cash Awards*. An Employee Award may be in the form of a Cash Award. The criteria used to make such awards are the same as identified in paragraph 7(a)(vi) with the addition of subjective group, team or individual goals aligned to business results. Performance criteria and peer groups related to Cash Award payments may also be adjusted as provided for in paragraph 7(a)(vi).

8. *Director Awards*.

(a) The Board shall determine the type or types of Director Awards to be made under this Plan and shall designate from time to time the Participants who are to be the recipients of such Director Awards; provided, however, no Participant who is a Non-Employee Director may be granted Equity Awards in respect of any calendar year having a value determined on the Grant Date in excess of $600,000. Each Director Award shall be evidenced in either an individual Director Award Agreement, a common document including but not limited to a separate plan, policy, agreement or other written document, which shall contain such terms, conditions and limitations as shall be determined by the Board in its sole discretion, and may be signed by an Authorized Officer on behalf of the Corporation. Director Awards may consist of those listed in this paragraph 8(a) and may be granted singly, in combination or in tandem. Director Awards may also be made in combination or in tandem with, in replacement of, or as alternatives to, grants or rights under this Plan or any other plan of the Corporation or any of its Subsidiaries, including the plan of any acquired entity; provided that, except as contemplated in paragraph 14 hereof, without shareholder approval, no Option or Stock Appreciation Right may be issued in exchange for the cancellation of an Option or Stock Appreciation Right with a higher exercise price nor may the exercise price of any Option or Stock Appreciation Right be reduced without shareholder approval. No Option or Stock Appreciation Right may include provisions that “reload” or “recycle” the Option or Stock Appreciation Right upon exercise or that extend the term of an Option or Stock Appreciation Right beyond ten years from its Grant Date. All or part of a Director Award may be subject to conditions established by the Board, which may include, but are not limited to, continuous service with the Corporation and its Subsidiaries and achievement of specific Performance Goals. Upon the termination of service by a Participant who is a Director, any unexercised, deferred, unvested or unpaid Awards shall be treated as set forth in the applicable Director Award Agreement.

(i) *Option*. A Director Award may be in the form of an Option. An Option awarded to a Director pursuant to this Plan shall be a Non-Qualified Stock Option. The Grant Price of an Option shall be not less than the Fair Market

Value of the Common Stock on the Grant Date. The term of an Option shall not exceed ten years from the Grant Date.

(ii) *Stock Appreciation Right*. A Director Award may be in the form of a Stock Appreciation Right. The Grant Price for a Stock Appreciation Right shall not be less than the Fair Market Value of the Common Stock on the Grant Date. The term of a Stock Appreciation Right shall not exceed ten years from the Grant Date.

(iii) *Stock Award*. A Director Award may be in the form of a Stock Award. Terms, conditions and limitations applicable to a Stock Award granted to a Non-Employee Director pursuant to this Plan shall be determined by the Board.

(iv) *Restricted Stock Unit Award*. A Director Award may be in the form of a Restricted Stock Unit Award. Terms, conditions and limitations applicable to a Restricted Stock Unit Award granted to a Non-Employee Director pursuant to this Plan shall be determined by the Board.

(v) *Cash Awards*. A Director Award may be in the form of a Cash Award.

(vi) *Performance Award*. Without limiting the type or number of Director Awards that may be made under the other provisions of this Plan, a Director Award may be in the form of a Performance Award. Terms, conditions and limitations applicable to any Performance Award granted to a Non-Employee Director pursuant to this Plan shall be determined by the Board. The Board shall set performance goals in its discretion which, depending on the extent to which they are met, may determine the value and/or amount of Performance Awards that will be paid out to the Non-Employee Directors.

9. *Award Payment; Dividends; Substitution; Fractional Shares*.

(a) *General*. Payment of Awards may be made in the form of cash or Common Stock, or a combination thereof, and may include such restrictions as the Administrator shall determine, including, in the case of Common Stock, restrictions on transfer and forfeiture provisions.
If payment of an Award is made in the form of Restricted Stock, such shares may be issued at the beginning or end of the Restriction Period. In the event that shares of Restricted Stock are to be issued at the beginning of the Restriction Period, the certificates evidencing such shares (to the extent that such shares are so evidenced) shall contain appropriate legends and restrictions that describe the terms and conditions of the restrictions applicable to such shares. In the event that shares of Restricted Stock are to be issued at the end of the Restricted Period, the right to receive such shares shall be evidenced by book entry registration or in such other manner as the Administrator may determine.

(b) *Dividends and Interest*. Rights to dividends or Dividend Equivalents may be extended to and made part of any Award consisting of shares of Common Stock or units denominated in shares of Common Stock, subject to such terms, conditions and restrictions as the Administrator may establish. The Administrator may also establish rules and procedures for the crediting of interest on deferred cash payments and Dividend Equivalents for Awards consisting of shares of Common Stock or units denominated in shares of Common Stock. Notwithstanding anything herein to the contrary, in no event shall dividends or Dividend Equivalents be currently payable with respect to unvested or unearned Awards unless and until such Awards vest.

(c) *Fractional Shares*. No fractional shares shall be issued or delivered pursuant to any Award under this Plan. The Administrator shall determine whether cash, Awards or other property shall be issued or paid in lieu of fractional shares, or whether fractional shares or any rights thereto shall be forfeited or otherwise eliminated.

10. *Stock Option and Stock Appreciation Right Exercise*. The Grant Price of an Option or Stock Appreciation Right shall be paid in full at the time of exercise in cash or, if elected by the Participant, the Participant may purchase such shares by means of tendering Common Stock valued at Fair Market Value on the date of exercise, or any combination thereof. The Administrator, in its sole discretion, shall determine acceptable methods for Participants to tender Common Stock. Subject to applicable law, Options or Stock Appreciation Rights may also be exercised through "cashless exercise" procedures approved by the Administrator.

11. *Taxes*. The Corporation or its third party administrator shall have the right to deduct applicable taxes from any Award payment and withhold, at the time of delivery or vesting of cash or shares of Common Stock under this Plan, an appropriate amount of cash or number of shares of Common Stock or a combination thereof for payment of taxes required by law or to take such other action as may be necessary in the opinion of the Corporation to satisfy all obligations for withholding of such taxes. The Administrator may also permit withholding to be satisfied by the transfer to the Corporation of shares of Common Stock owned by the holder of the Award with respect to which withholding is required. If shares of Common Stock are used to satisfy tax withholding, such shares shall be valued at Fair Market Value on the date when the tax withholding is required to be made.

12. *Amendment, Modification, Suspension or Termination*. The Board or the Committee may amend, modify, suspend or terminate this Plan for the purpose of meeting or addressing any changes in legal requirements or for any other purpose permitted by law, except that: (i) no amendment or alteration that would materially adversely affect the rights of any Participant under any Award previously granted to such Participant shall be made without the consent of such Participant; and (ii) no amendment or alteration shall be effective prior to its approval by the shareholders of the Corporation to the extent shareholder approval is otherwise required by applicable legal requirements or the requirements of any exchange on which the Common Stock is listed. Notwithstanding the foregoing, no amendment may cause an Option or Stock Appreciation Right to be repriced, replaced, bought back, regranted through cancellation or modified without shareholder approval (except as provided in paragraph 14), if the effect of such amendment would be to reduce the exercise price for the shares underlying such Option or Stock Appreciation Right.

13. *Assignability*. Unless otherwise determined by the Committee in the Award Agreement, no Award or any other benefit under this Plan shall be assignable or otherwise transferable, except by will or the laws of descent and distribution. Any attempted assignment of an Award or any other benefit under this Plan in violation of this paragraph 13 shall be null and void.

14. *Adjustments*.

(a) The existence of this Plan and Awards granted hereunder shall not affect in any way the right or power of the Corporation or its shareholders to make or authorize any or all adjustments, recapitalizations, reorganizations or other changes in the Corporation's capital structure or its business, or any merger or consolidation of the Corporation, or any issue of bonds, debentures, preferred, or prior preference stocks ahead of or affecting the shares of Common Stock or the rights thereof, or the dissolution or liquidation of the Corporation, or any sale or transfer of all or any part of its assets or business or any other corporate act or proceeding, whether of a similar character or otherwise.

(b) Except as provided in this Plan, the issue by the Corporation of shares of stock of any class, or securities convertible into shares of stock of any class, for cash or property, or for labor or services, either upon direct sale or upon exercise of rights or warrants to subscribe therefore, or upon conversion of shares or obligations of the

Corporation convertible into such shares or other securities, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number of shares of Common Stock subject to Awards granted hereunder.

(c) If the Corporation shall effect a subdivision or consolidation of shares or other capital adjustments, adoption of any plan of exchange affecting Common Stock, a distribution to holders of Common Stock of securities or other property (other than normal cash dividends), the payment of a stock dividend or other increase or reduction of the number of shares of the Common Stock outstanding without receiving compensation in money, services or property, then (i) the number of shares of Common Stock subject to this Plan, (ii) the Stock-based Awards Limitations, (iii) the number of shares of Common Stock covered by outstanding Awards, (iv) the Grant Prices of all outstanding Awards, and (v) the appropriate Fair Market Values determined for such Awards shall each be adjusted proportionately by the Board as appropriate to reflect such transaction.

(d) In the event of a corporate merger, consolidation, acquisition of property or stock, separation, reorganization or liquidation, the Board may make such adjustments to Awards or other provisions for the disposition of Awards as it deems equitable, and shall be authorized, in its sole discretion: (i) to provide for the substitution of a new Award or other arrangement (which, if applicable, may be exercisable for such property or stock as the Board determines) for an Award or the assumption of the Award, regardless of whether in a transaction to which Code § 424(a) applies; (ii) to provide, prior to the transaction, for the acceleration of the vesting and exercisability of, or lapse of restrictions with respect to, the Award; or (iii) to cancel any such Awards and to deliver to the Participants cash in an amount that the Board shall determine in its sole discretion is equal to the Fair Market Value of such Awards on the date of such event, which in the case of Options or Stock Appreciation Rights shall be the excess of the Fair Market Value of Common Stock on such date over the exercise price of such Award. For the avoidance of doubt, if the exercise price is less than Fair Market Value the Option or Stock Appreciation Right may be canceled for no consideration.

(e) Notwithstanding the foregoing: (i) any adjustments made pursuant to this paragraph 14 to Awards that are considered “deferred compensation” within the meaning of Code § 409A shall be made in a manner which is intended to not result in accelerated or additional tax to a Participant pursuant to Code § 409A and (ii) any adjustments made pursuant to this paragraph 14 to Awards that are not considered “deferred compensation” subject to Code § 409A shall be made in such a manner intended to ensure that after such adjustment, the Awards either: (A) continue not to be subject to Code § 409A; or (B) do not result in accelerated or additional tax to a Participant pursuant to Code § 409A.

15. *Restrictions*. No Common Stock or other form of payment shall be issued and no payment shall be made with respect to any Award unless the Corporation shall be satisfied based on the advice of its counsel that such issuance will be in compliance with the rules of any securities exchange on which the Common Stock is listed and applicable laws, including United States federal and state securities laws. Certificates (if any) or other writings evidencing shares of Common Stock delivered under this Plan (to the extent that such shares are so evidenced) may be subject to such stop transfer orders and other restrictions as the Administrator may deem advisable under the rules, regulations and other requirements of the Securities and Exchange Commission, any securities exchange or transaction reporting system upon which the Common Stock is then listed or to which it is admitted for quotation and any applicable federal or state securities law. The Administrator may cause a legend or legends to be placed upon such certificates or other writings to make appropriate reference to such restrictions.

16. *Unfunded Plan*. This Plan shall be unfunded. Although bookkeeping accounts may be established with respect to Participants who are entitled to cash, Common Stock or rights thereto under this Plan, any such accounts

shall be used merely as a bookkeeping convenience. The Corporation shall not be required to segregate any assets that may at any time be represented by cash, Common Stock, or rights thereto, nor shall this Plan be construed as providing for such segregation, nor shall the Corporation, the Board or the Committee be deemed to be a trustee of any cash, Common Stock or rights thereto to be granted under this Plan. Any liability or obligation of the Corporation to any Participant with respect to an Award of cash, Common Stock or rights thereto under this Plan shall be based solely upon any contractual obligations that may be created by this Plan and any Award Agreement, and no such liability or obligation of the Corporation shall be deemed to be secured by any pledge or other encumbrance on any property of the Corporation. Neither the Corporation nor the Board nor the Committee shall be required to give any security or bond for the performance of any obligation that may be created by this Plan.

17. *Code Section 409A*. This Plan is intended to provide compensation which is exempt from or which complies with Code § 409A, and ambiguous provisions of this Plan or any Award Agreement, if any, shall be construed in a manner that would cause Awards to be compliant with or exempt from the application of Code § 409A, as appropriate. For purposes of Code § 409A, each payment under this Plan shall be deemed to be a separate payment. To the extent that it is determined that an Award will be subject to Code § 409A additional provisions, terms and conditions will apply as necessary to comply with Code § 409A and will be reflected in the applicable Employee Award Agreement and such terms will govern with respect to that Award notwithstanding any provision of this Plan to the contrary.

Notwithstanding any provision of this Plan to the contrary, if a Participant is a “specified employee” within the meaning of Code § 409A as of the date of such Participant’s termination of employment and the Corporation determines, in good faith, that immediate payment of any amounts or benefits under this Plan would cause a violation of Code § 409A, then any amounts or benefits which are payable under this Plan upon the Participant’s “separation from service” within the meaning of Code § 409A which: (i) are subject to the provisions of Code § 409A; (ii) are not otherwise excluded under Code § 409A; and (iii) would otherwise be payable during the first six-month period following such separation from service, shall be paid as soon as practicable the first business day next following the earlier of: (1) the date that is six months and one day following the date of termination; or (2) the date of the Participant’s death.

18. *Governing Law*. This Plan and all determinations made and actions taken pursuant hereto, to the extent not otherwise governed by mandatory provisions of the Code or the securities laws of the United States, shall be governed by and construed in accordance with the laws of the State of Delaware.

19. *No Right to Employment*. Nothing in this Plan or an Award Agreement shall interfere with or limit in any way the right of the Corporation or a Subsidiary to terminate any Participant’s employment or other service relationship at any time, nor confer upon any Participant any right to continue in the capacity in which he or she is employed or otherwise serves the Corporation or any Subsidiary.

20. *Successors*. All obligations of the Corporation under this Plan with respect to Awards granted hereunder shall be binding on any successor to the Corporation, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation or otherwise, of all or substantially all of the business and/or assets of the Corporation.

21. *Tax Consequences*. Nothing in this Plan or an Award Agreement shall constitute a representation by the Corporation to a Participant regarding the tax consequences of any Award received by a Participant under this Plan. Although the Corporation may endeavor to: (i) qualify a Performance Award for favorable United States or foreign

tax treatment; or (ii) avoid adverse tax treatment (*e.g.* , under Code § 409A), the Corporation makes no representation to that effect and expressly disavows any covenant to maintain favorable or unavoidable tax treatment. The Corporation shall be unconstrained in its corporate activities without regard to the potential negative tax impact on holders of Performance Awards under this Plan.

22. *Non-United States Participants*. The Board or Committee may grant Awards to persons outside the United States under such terms and conditions as may, in the judgment of the Board or Committee, as applicable, be necessary or advisable to comply with the laws of the applicable foreign jurisdictions and, to that end, may establish sub-plans, modified vesting, exercise or settlement procedures and other terms and procedures. Notwithstanding the above, neither the Board nor the Committee may take any actions under this Plan, and no Awards shall be granted, that would violate the Securities Exchange Act of 1934, the Code or any other applicable law.

23. *Effectiveness*. Subject to shareholder approval, this Plan is effective April 25, 2012. This Plan shall continue in effect for a term of ten years after the date on which the shareholders of the Corporation first approved this Plan, which was April 25, 2012, unless sooner terminated by action of the Board.

(Back To Top)

Section 9: EX-21.1 (EXHIBIT 21.1)

Exhibit 21.1

MARATHON PETROLEUM CORPORATION
LIST OF SUBSIDIARIES
as of December 31, 2018

	Name of Subsidiary	Jurisdiction of Organization/Incorporation
	2Go Tesoro Company	Delaware
	631 South Main Street Development LLC	Delaware
*	Andeavor Field Services LLC	Delaware
*	Andeavor Gathering I LLC	Delaware
	Andeavor LLC	Delaware
*	Andeavor Logistics CD 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
	Ascarate Group LLC	Delaware
*	Ascension Pipeline Company, LLC	Delaware
*	Asphalt Terminals LLC	Delaware
*	Bakken Pipeline Investments 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
	Bonded Oil Company	Delaware
	Buckeye Assurance Corporation	Vermont
*	Canton Refining Logistics LLC	Delaware
	Carson Cogeneration LLC	Delaware
*	Catlettsburg Refining Logistics LLC	Delaware
	Catlettsburg Refining, LLC	Delaware
*	Centennial Pipeline LLC	Delaware
*	Centrahoma Processing LLC	Delaware
	Cincinnati BioRefining Corp.	Delaware
	Cincinnati Renewable Fuels LLC	Delaware
	Ciniza Production Company	New Mexico
*	Combustibles Playa Rosarito, S.A. de C.V.	Mexico
*	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
* Detroit Refining Logistics LLC	Delaware
Dial Oil Co., LLC	New Mexico
* Eastern Gulf Crude Access, LLC	Delaware
Empire Oil Co.	California
* Enchi Corporation	Delaware
* Energy Transfer Crude Oil Company, LLC	Delaware
* ETCO Holdings LLC	Delaware
* Explorer Pipeline Company	Delaware
* Galveston Bay Refining Logistics LLC	Delaware
* Garyville Refining Logistics LLC	Delaware
Giant Four Corners, LLC	Delaware
Giant Industries, Inc.	Delaware
Giant Stop-N-Go of New Mexico, LLC	New Mexico
Gold Star Maritime Company	Delaware
* Gravcap, Inc.	Delaware
Gray Oak Gateway Holdings LLC	Delaware
* Gray Oak Pipeline, LLC	Delaware
* Green Bay Terminal Corporation	Wisconsin
* Green River Processing, LLC	Delaware
* Guilford County Terminal Company, LLC	North Carolina
Hardin Assurance Ltd.	Bermuda
Hardin Street Holdings LLC	Delaware
* Hardin Street Marine LLC	Delaware
* Hardin Street Transportation LLC	Delaware
* Illinois Extension Pipeline Company, L.L.C.	Delaware
Interior Fuels Company	Alaska
* Jefferson Gas Gathering Company, L.L.C.	Delaware
* Johnston County Terminal, LLC	Delaware
Kenai LNG LLC	Delaware
Kenai Pipe Line Company	Delaware
* Lincoln Pipeline LLC	Delaware
* LOCAP LLC	Delaware
* LOOP LLC	Delaware
Marathon Canada Marketing, Ltd.	Delaware
Marathon Carbon Management LLC	Delaware
Marathon Petroleum Company Canada, Ltd.	Alberta
Marathon Petroleum Company LP	Delaware
Marathon Petroleum Foundation, Inc.	Texas
Marathon Petroleum Logistics Services LLC	Delaware
Marathon Petroleum Service Company	Delaware
Marathon Petroleum Supply LLC	Delaware
Marathon Petroleum Trading Canada LLC	Delaware
Marathon Pipe Line Company	Nevada
* Marathon Pipe Line LLC	Delaware
Marathon PrePaid Card LLC	Ohio
Marathon Refining Logistics Services LLC	Delaware
Marathon Renewable Fuels Corp.	Delaware
Marathon Renewable Supply LLC	Delaware
* MarEn Bakken Company LLC	Delaware
* MarkWest Agua Blanca Pipeline, L.L.C.	Delaware
* MarkWest Blackhawk, L.L.C.	Texas
* 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 Gas Services, L.L.C.	Texas
* MarkWest Hydrocarbon, L.L.C.	Delaware
* MarkWest Javelina Company, L.L.C.	Texas
* MarkWest Javelina Pipeline Company, L.L.C.	Texas
* 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 Michigan Pipeline Company, L.L.C.	Michigan
* MarkWest New Mexico, L.L.C.	Texas
* MarkWest Ohio Fractionation Company, L.L.C.	Delaware
* MarkWest Oklahoma Gas Company, L.L.C.	Oklahoma
* MarkWest Panola Pipeline, L.L.C.	Texas
* MarkWest Pinnacle, L.L.C.	Texas
* MarkWest Pioneer, L.L.C.	Delaware
* MarkWest Pipeline Company, L.L.C.	Texas
* MarkWest PNG Utility, L.L.C.	Texas
* MarkWest POET, L.L.C.	Delaware
* MarkWest Power Tex, L.L.C.	Texas
* 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
* Midwest Connector Capital Company LLC	Delaware
* Minnesota Pipe Line Company, LLC	Delaware
MPC Finance Co.	Delaware
MPC Investment Fund, Inc.	Delaware
MPC Investment LLC	Delaware
MPC Trade Receivables Company LLC	Delaware
MPL Investment LLC	Delaware
* MPL Investments, Inc.	Delaware
* MPL Louisiana Holdings LLC	Delaware
* MPLX DAPLETCO Holdings 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
* MPLXIF LLC	Delaware
* Mt. Airy Terminal LLC	Delaware
* Mule Sidetracks, L.L.C.	Delaware
* Mule Tracts, L.L.C.	Delaware
* Muskegon Pipeline LLC	Delaware
MW Logistics Services LLC	Delaware
* MWE GP LLC	Delaware
* Navajo Convenient Stores Co., LLC	New Mexico
Niles Properties LLC	Delaware
* North Dakota Pipeline Company LLC	Delaware
Northern Tier Bakery LLC	Delaware
Northern Tier Energy GP LLC	Delaware
Northern Tier Energy LLC	Delaware
Northern Tier Energy LP	Delaware
Northern Tier Finance Corporation	Delaware
Northern Tier Oil Transport LLC	Delaware
Northern Tier Retail Holdings LLC	Delaware
Northern Tier Retail 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
* Oil Insurance Limited	Bermuda
* Panola Pipeline Company, LLC	Texas
* PFJ Southeast LLC	Delaware
* PNAC, LLC	Nevada
* Port Everglades Environmental Corp.	Florida
Redland Vision, LLC	Delaware
* Rendezvous Gas Services, L.L.C.	Wyoming
* Rendezvous Pipeline Company, LLC	Colorado
* Resource Environmental, L.L.C.	Delaware
Ridgewood Association	Texas
Ridgewood Insurance Company	Vermont
Rio Hub LLC	Delaware
* Robinson Refining Logistics LLC	Delaware
RW Land Company	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
Speedway LLC	Delaware
Speedway of Massachusetts LLC	Massachusetts
Speedway Petroleum Corporation	Delaware
Speedway Prepaid Card LLC	Ohio
Speedway.com LLC	Delaware
Speedy Prepaid Services Inc.	New Hampshire
St. Paul Park Refining Co. LLC	Delaware
Starvin Marvin, Inc.	Delaware
SuperAmerica Franchising LLC	Delaware
SWTO LLC	Delaware
Tahoe Merger Sub 2, LLC	Delaware

	Tesoro Alaska Company LLC	Delaware
*	Tesoro Alaska Pipeline Company LLC	Delaware
*	Tesoro Alaska Terminals LLC	Delaware
	Tesoro Aviation Company	Delaware
	Tesoro Canada Supply & Distribution Ltd.	British Columbia
	Tesoro Companies, Inc.	Delaware
	Tesoro Environmental Resources Company	Delaware
	Tesoro Far East Maritime 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 Insurance Holding Company	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 Northstore Company	Alaska
	Tesoro Panama Company, S.A.	Panama/Delaware
	Tesoro Petroleum (Singapore) Pte. Ltd.	Singapore
	Tesoro Refining & Marketing Company LLC	Delaware
	Tesoro Renewables Company LLC	Delaware
*	Tesoro Savage Petroleum Terminal LLC	Delaware
	Tesoro Sierra Properties, LLC	Delaware
	Tesoro SoCal Cogen Company LLC	Delaware
*	Tesoro SoCal Pipeline Company LLC	Delaware
	Tesoro South Coast Company, LLC	Delaware
	Tesoro Trading Company	Delaware
	Tesoro Wasatch, LLC	Delaware
	Tesoro West Coast Company, LLC	Delaware
*	The Andersons Albion Ethanol LLC	Ohio
*	The Andersons Clymers Ethanol LLC	Ohio
*	The Andersons Marathon Ethanol LLC	Delaware
*	Three Rivers Gathering, LLC	Delaware
	Trans-Foreland Pipeline Company LLC	Delaware
	Treasure Card Company LLC	Arizona
	Treasure Franchise Company LLC	Delaware
	Uinta Express Pipeline Company LLC	Delaware
*	Uintah Basin Field Services, L.L.C.	Delaware
	Virent Renewables Holding Company LLC	Delaware
	Virent Renewables LLC	Delaware
	Virent, Inc.	Delaware
*	Watson Cogeneration Company	California
*	West Relay Gathering Company, L.L.C.	Delaware
	Western Refining Company, L.P.	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 GP, LLC	Delaware

*	Western Refining Logistics GP, LLC	Delaware
*	Western Refining Logistics, LP	Delaware
	Western Refining LP, LLC	Delaware
*	Western Refining Pipeline, LLC	New Mexico
*	Western Refining Product Transport, LLC	Delaware
	Western Refining Retail, LLC	Delaware
	Western Refining Southwest, Inc.	Arizona
*	Western Refining Terminals, LLC	Delaware
	Western Refining Texas Retail Services, LLC	Texas
	Western Refining TRS I, LLC	Texas
	Western Refining TRS II, LLC	Texas
*	Western Refining Wholesale, LLC	Delaware
	Western Refining Yorktown Holding Company	Delaware
	Western Refining Yorktown, Inc.	Delaware
	Western Refining, Inc.	Delaware
	Williston Basin Pipe Line LLC	Delaware
*	WIP, LLC	Indiana
	WNR Mexico 1, LLC	Delaware
	WNR Mexico 2, LLC	Delaware
*	WNRL Energy GP, LLC	Delaware
*	WNRL Energy, LLC	Delaware
*	WNRL Finance Corp.	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.

(Back To Top)

Section 10: EX-23.1 (EXHIBIT 23.1)

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 (No. 333-227623, 333-217560 and 333-217543) and Form S-8 (No. 333-181007, 333-175245, 333-175244, 333-212956, 333-227620 and 333-227621) of Marathon Petroleum Corporation of our report dated February 28, 2019 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 28, 2019

(Back To Top)

Section 11: EX-24.1 (EXHIBIT 24.1)

Exhibit 24.1

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 Gary R. Heminger, Timothy T. Griffith and John J. Quaid, 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, 2018 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 27th day of February, 2019.

/s/ Gary R. Heminger	/s/ Gregory J. Goff
Gary R. Heminger Chairman of the Board and Chief Executive Officer (principal executive officer)	Gregory J. Goff Executive Vice Chairman
/s/ Timothy T. Griffith	/s/ John J. Quaid
Timothy T. Griffith Senior Vice President and Chief Financial Officer (principal financial officer)	John J. Quaid Vice President and Controller (principal accounting officer)
/s/ Abdulaziz F. Alkhayyal	/s/ Evan Bayh
Abdulaziz F. Alkhayyal Director	Evan Bayh Director
/s/ Charles E. Bunch	/s/ Steven A. Davis
Charles E. Bunch Director	Steven A. Davis Director
/s/ Edward G. Galante	/s/ James E. Rohr
Edward G. Galante Director	James E. Rohr Director
/s/ Kim K.W. Rucker	/s/ J. Michael Stice
Kim K.W. Rucker Director	J. Michael Stice Director
/s/ John P. Surma	/s/ Susan Tomasky
John P. Surma Director	Susan Tomasky Director

(Back To Top)

Section 12: EX-31.1 (EXHIBIT 31.1)

Exhibit 31.1

MARATHON PETROLEUM CORPORATION

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gary R. Heminger, 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 28, 2019

/s/ Gary R. Heminger
Gary R. Heminger
Chairman of the Board and Chief Executive Officer

(Back To Top)

Section 13: EX-31.2 (EXHIBIT 31.2)

Exhibit 31.2

MARATHON PETROLEUM CORPORATION

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy T. Griffith, 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 28, 2019

/s/ Timothy T. Griffith
Timothy T. Griffith
Senior Vice President and Chief Financial Officer

(Back To Top)

Section 14: EX-32.1 (EXHIBIT 32.1)

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, 2018 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Gary R. Heminger, Chairman of the Board 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 28, 2019

/s/ Gary R. Heminger
Gary R. Heminger
Chairman of the Board and Chief Executive Officer

(Back To Top)

Section 15: EX-32.2 (EXHIBIT 32.2)

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, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Timothy T. Griffith, Senior 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 28, 2019

/s/ Timothy T. Griffith

Timothy T. Griffith
Senior Vice President and Chief Financial Officer

(Back To Top)