AIR PRODUCTS & CHEMICALS INC /DE/
Form 10-Q
January 25, 2019

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Table of Contents

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

FORM 10-Q
(Mark One)

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

For the quarterly period ended 31 December 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 001-04534

AIR PRODUCTS AND CHEMICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	23-1274455
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
7201 Hamilton Boulevard, Allentown, Pennsylvania	18195-1501
(Address of Principal Executive Offices)	(Zip Code)

610-481-4911

(Registrant’s Telephone Number, Including Area Code)

Not Applicable

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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 (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x 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 x No ¨

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

Large accelerated filer x	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 Exchange Act). Yes ¨ No x

Indicate the number of shares outstanding of each of the issuer’s classes of common stock, as of the latest practicable date.

Class	Outstanding at 31 December 2018
Common Stock, $1 par value	219,631,171

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
INDEX

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)
Consolidated Income Statements – Three Months Ended 31 December 2018 and 2017 4
Consolidated Comprehensive Income Statements – Three Months Ended 31 December 2018 and 2017 5
Consolidated Balance Sheets – 31 December 2018 and 30 September 2018 6
Consolidated Statements of Cash Flows – Three Months Ended 31 December 2018 and 2017 7
Consolidated Statements of Equity – Three Months Ended 31 December 2018 and 2017 8
Notes to Consolidated Financial Statements 9

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations 28
Item 3. Quantitative and Qualitative Disclosures About Market Risk 42
Item 4. Controls and Procedures 43

PART II. OTHER INFORMATION

Item 5. Other Information 44
Item 6. Exhibits 44
Signature 45

FORWARD-LOOKING STATEMENTS

This quarterly report contains "forward-looking statements" within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that do not relate solely to historical or current facts and can generally be identified by words such as "anticipate," "believe," "could," "estimate," "expect "forecast," "goal," "intend," "may," "outlook," "plan," "positioned," "possible," "potential," "project," "should," "target," "wil similar expressions or variations thereof, or the negative thereof, but these terms are not the exclusive means of identifying such statements. Forward-looking statements are based on management's expectations and assumptions as of the date of this report and are not guarantees of future performance. You are cautioned not to place undue reliance on our forward-looking statements.

Forward-looking statements may relate to a number of matters, including expectations regarding revenue, margins, expenses, earnings, tax provisions, cash flows, pension obligations, share repurchases or other statements regarding economic conditions or our business outlook; statements regarding plans, projects, strategies and objectives for our future operations, including our ability to win new projects and execute the projects in our backlog; and statements regarding our expectations with respect to pending legal claims or disputes. While forward-looking statements are made in good faith and based on assumptions, expectations and projections that management believes are reasonable based on currently available information, actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation:

- changes in global or regional economic conditions, supply and demand dynamics in the market segments we serve, or in the financial markets;
- risks associated with having extensive international operations, including political risks, risks associated with unanticipated government actions and risks of investing in developing markets;
- project delays, contract terminations, customer cancellations, or postponement of projects and sales;
- the future financial and operating performance of major customers and joint venture partners;
- our ability to develop, implement, and operate new technologies, or to execute the projects in our backlog;

2

Table of Contents

- tariffs, economic sanctions and regulatory activities in jurisdictions in which we and our affiliates and joint ventures operate;
- the impact of environmental, tax or other legislation, as well as regulations affecting our business and related compliance requirements, including regulations related to global climate change;
- changes in tax rates and other changes in tax law;
- the timing, impact, and other uncertainties relating to acquisitions and divestitures, including our ability to integrate acquisitions and separate divested businesses, respectively;
- risks relating to cybersecurity incidents, including risks from the interruption, failure or compromise of our information systems;
- catastrophic events, such as natural disasters, acts of war, or terrorism;
- the impact of price fluctuations in natural gas and disruptions in markets and the economy due to oil price volatility;
- costs and outcomes of legal or regulatory proceedings and investigations;
- asset impairments due to economic conditions or specific events;
- significant fluctuations in interest rates and foreign currency exchange rates from those currently anticipated;
- damage to facilities, pipelines or delivery systems, including those we own or operate for third parties;
- availability and cost of raw materials; and
- the success of productivity and operational improvement programs

In addition to the foregoing factors, forward-looking statements contained herein are qualified with respect to the risks disclosed elsewhere in this document, including in Item 2, Management’s Discussion and Analysis of Financial Condition and Results of Operations and Item 3, Quantitative and Qualitative Disclosures About Market Risk, as well as with respect to the risks described in Item 1A, Risk Factors, to our Annual Report on Form 10-K for the year ended 30 September 2018. Any of these factors, as well as those not currently anticipated by management, could cause our results of operations, financial condition or liquidity to differ materially from what is expressed or implied by any forward-looking statement. Except as required by law, we disclaim any obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any change in assumptions, beliefs, or expectations or any change in events, conditions, or circumstances upon which any such forward-looking statements are based.

Table of Contents

PART I. FINANCIAL INFORMATION
Item 1. Financial Statements
AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

	Three Months Ended 31 December	
(Millions of dollars, except for share and per share data)	2018	2017
Sales	$2,224.0	$2,216.6
Cost of sales	1,544.0	1,571.8
Facility closure	29.0	—
Selling and administrative	189.6	191.6
Research and development	15.0	14.6
Other income (expense), net	8.6	22.1
Operating Income	455.0	460.7
Equity affiliates' income	52.9	13.8
Interest expense	37.3	29.8
Other non-operating income (expense), net	18.5	9.8
Income From Continuing Operations Before Taxes	489.1	454.5
Income tax provision	132.1	291.8
Income From Continuing Operations	357.0	162.7
Loss From Discontinued Operations, net of tax	—	(1.0)
Net Income	357.0	161.7
Net Income Attributable to Noncontrolling Interests of Continuing Operations	9.5	7.1
Net Income Attributable to Air Products	$347.5	$154.6
Net Income Attributable to Air Products		
Income from continuing operations	$347.5	$155.6
Loss from discontinued operations	—	(1.0)
Net Income Attributable to Air Products	$347.5	$154.6
Basic Earnings Per Common Share Attributable to Air Products		
Income from continuing operations	$1.58	$.71
Loss from discontinued operations	—	—
Net Income Attributable to Air Products	$1.58	$.71
Diluted Earnings Per Common Share Attributable to Air Products		
Income from continuing operations	$1.57	$.70
Loss from discontinued operations	—	—
Net Income Attributable to Air Products	$1.57	$.70
Weighted Average Common Shares – Basic (in millions)	219.9	218.9
Weighted Average Common Shares – Diluted (in millions)	221.0	220.4

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

	Three Months Ended 31 December	
(Millions of dollars)	2018	2017
Net Income	$357.0	$161.7
Other Comprehensive Income (Loss), net of tax:		
Translation adjustments, net of tax of $4.9 and ($6.6)	(68.1)	136.4
Net loss on derivatives, net of tax of ($0.7) and ($5.3)	(10.3)	(9.5)
Pension and postretirement benefits, net of tax of ($0.8) and $–	(3.9)	—
Reclassification adjustments:		
Currency translation adjustment	—	3.1
Derivatives, net of tax of ($0.8) and $1.7	(3.1)	.8
Pension and postretirement benefits, net of tax of $5.0 and $11.0	15.2	22.9
Total Other Comprehensive Income (Loss)	(70.2)	153.7
Comprehensive Income	286.8	315.4
Net Income Attributable to Noncontrolling Interests	9.5	7.1
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	(.9)	1.9
Comprehensive Income Attributable to Air Products	$278.2	$306.4

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED BALANCE SHEETS
(Unaudited)

(Millions of dollars, except for share and per share data)	31 December 2018	30 September 2018
Assets		
Current Assets		
Cash and cash items	$2,923.3	$2,791.3
Short-term investments	12.3	184.7
Trade receivables, net	1,268.2	1,207.2
Inventories	403.4	396.1
Prepaid expenses	74.9	129.6
Other receivables and current assets	407.8	373.3
Total Current Assets	5,089.9	5,082.2
Investment in net assets of and advances to equity affiliates	1,242.4	1,277.2
Plant and equipment, at cost	21,586.5	21,490.2
Less: accumulated depreciation	11,626.7	11,566.5
Plant and equipment, net	9,959.8	9,923.7
Goodwill, net	780.4	788.9
Intangible assets, net	416.9	438.5
Noncurrent capital lease receivables	985.9	1,013.3
Other noncurrent assets	666.7	654.5
Total Noncurrent Assets	14,052.1	14,096.1
Total Assets	$19,142.0	$19,178.3
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	$1,738.3	$1,817.8
Accrued income taxes	111.9	59.6
Short-term borrowings	23.0	54.3
Current portion of long-term debt	430.3	406.6
Total Current Liabilities	2,303.5	2,338.3
Long-term debt	2,954.4	2,967.4
Long-term debt – related party	360.2	384.3
Other noncurrent liabilities	1,551.6	1,536.9
Deferred income taxes	768.9	775.1
Total Noncurrent Liabilities	5,635.1	5,663.7
Total Liabilities	7,938.6	8,002.0
Commitments and Contingencies - See Note 10		
Air Products Shareholders' Equity		
Common stock (par value $1 per share; issued 2019 and 2018 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,030.4	1,029.3
Retained earnings	13,497.9	13,409.9
Accumulated other comprehensive loss	(1,811.2)	(1,741.9)
Treasury stock, at cost (2019 - 29,824,413 shares; 2018 - 29,940,339 shares)	(2,083.6)	(2,089.2)
Total Air Products Shareholders' Equity	10,882.9	10,857.5
Noncontrolling Interests	320.5	318.8
Total Equity	11,203.4	11,176.3
Total Liabilities and Equity	$19,142.0	$19,178.3

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(Millions of dollars)	Three Months Ended 31 December 2018	2017
Operating Activities		
Net income	$357.0	$161.7
Less: Net income attributable to noncontrolling interests of continuing operations	9.5	7.1
Net income attributable to Air Products	347.5	154.6
Loss from discontinued operations	—	1.0
Income from continuing operations attributable to Air Products	347.5	155.6
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	258.0	227.9
Deferred income taxes	(1.0)	(76.7)
Tax reform repatriation	46.2	310.3
Facility closure	29.0	—
Undistributed losses of unconsolidated affiliates	1.0	29.9
Gain on sale of assets and investments	(.7)	(.6)
Share-based compensation	9.3	11.8
Noncurrent capital lease receivables	24.8	23.3
Other adjustments	12.7	5.3
Working capital changes that provided (used) cash, excluding effects of acquisitions:		
Trade receivables	(73.6)	(34.2)
Inventories	(10.4)	(8.4)
Other receivables	10.3	23.8
Payables and accrued liabilities	(55.4)	(113.5)
Other working capital	57.5	5.5
Cash Provided by Operating Activities	655.2	560.0
Investing Activities		
Additions to plant and equipment	(403.4)	(256.6)
Acquisitions, less cash acquired	—	(237.1)
Proceeds from sale of assets and investments	1.1	10.6
Purchases of investments	(5.3)	(212.2)
Proceeds from investments	178.0	208.9
Other investing activities	3.1	5.6
Cash Used for Investing Activities	(226.5)	(480.8)
Financing Activities		
Payments on long-term debt	(2.6)	(408.6)
Net decrease in commercial paper and short-term borrowings	(38.0)	(40.7)
Dividends paid to shareholders	(241.5)	(207.5)
Proceeds from stock option exercises	4.7	34.4
Other financing activities	(12.4)	(18.7)
Cash Used for Financing Activities	(289.8)	(641.1)
Discontinued Operations		
Cash used for operating activities	—	(3.1)
Cash provided by investing activities	—	—
Cash provided by financing activities	—	—
Cash Used for Discontinued Operations	—	(3.1)
Effect of Exchange Rate Changes on Cash	(6.9)	14.0
Increase (Decrease) in cash and cash items	132.0	(551.0)

Cash and Cash items – Beginning of Year	2,791.3	3,273.6
Cash and Cash Items – End of Period	$2,923.3	$2,722.6

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)

Three Months Ended
31 December 2018

(Millions of dollars, except for per share data)	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Air Products Shareholders' Equity	Non-controlling Interests	Total Equity
Balance at 30 September 2018	$249.4	$1,029.3	$13,409.9	($1,741.9)	($2,089.2)	$10,857.5	$318.8	$11,176.3
Net income	—	—	347.5	—	—	347.5	9.5	357.0
Other comprehensive income (loss)	—	—	—	(69.3)	—	(69.3)	(.9)	(70.2)
Dividends on common stock (per share $1.10)	—	—	(241.6)	—	—	(241.6)	—	(241.6)
Dividends to noncontrolling interests	—	—	—	—	—	—	(6.9)	(6.9)
Share-based compensation	—	8.9	—	—	—	8.9	—	8.9
Issuance of treasury shares for stock option and award plans	—	(7.6)	—	—	5.6	(2.0)	—	(2.0)
Cumulative change in accounting principle	—	—	(17.1)	—	—	(17.1)	—	(17.1)
Other equity transactions	—	(.2)	(.8)	—	—	(1.0)	—	(1.0)
Balance at 31 December 2018	$249.4	$1,030.4	$13,497.9	($1,811.2)	($2,083.6)	$10,882.9	$320.5	$11,203.4

Three Months Ended
31 December 2017

(Millions of dollars, except for per share data)	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Air Products Shareholders' Equity	Non-controlling Interests	Total Equity
Balance at 30 September 2017	$249.4	$1,001.1	$12,846.6	($1,847.4)	($2,163.5)	$10,086.2	$99.3	$10,185.5
Net income	—	—	154.6	—	—	154.6	7.1	161.7
Other comprehensive income (loss)	—	—	—	151.8	—	151.8	1.9	153.7
Dividends on common stock (per share $0.95)	—	—	(208.0)	—	—	(208.0)	—	(208.0)
Dividends to noncontrolling interests	—	—	—	—	—	—	(7.7)	(7.7)
Share-based compensation	—	11.1	—	—	—	11.1	—	11.1
Issuance of treasury shares for stock option and award plans	—	(14.7)	—	—	34.6	19.9	—	19.9
Other equity transactions	—	.6	(.9)	—	—	(.3)	5.3	5.0
Balance at 31 December 2017	$249.4	$998.1	$12,792.3	($1,695.6)	($2,128.9)	$10,215.3	$105.9	$10,321.2

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(Millions of dollars unless otherwise indicated, except for share and per share data)

1 . Basis of Presentation and Major Accounting Policies 9
2 . New Accounting Guidance 10
3 . Revenue Recognition 12
4 . Acquisitions 15
5 . Inventories 15
6 . Goodwill 16
7 . Financial Instruments 16
8 . Fair Value Measurements 20
9 . Retirement Benefits 21
10. Commitments and Contingencies 22
11. Share-Based Compensation 24
12. Accumulated Other Comprehensive Loss 24
13. Earnings per Share 25
14. Income Taxes 26
15. Supplemental Information 26
16. Business Segment Information 27

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

The interim consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries ("we," "our," "us," the "Company," "Air Products," or "registrant") included herein have been prepared by us, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP) have been condensed or omitted pursuant to such rules and regulations. In our opinion, the accompanying statements reflect adjustments necessary to present fairly the financial position, results of operations, and cash flows for those periods indicated and contain adequate disclosure to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the notes. The notes to the interim consolidated financial statements, unless otherwise indicated, are on a continuing operations basis.

In order to fully understand the basis of presentation, the consolidated financial statements and related notes included herein should be read in conjunction with the consolidated financial statements and notes thereto included in our 2018 Form 10-K. Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

Refer to our 2018 Form 10-K for a description of major accounting policies. During the first three months of fiscal year 2019, these policies were impacted by the implementation of certain new accounting guidance, including the adoption of Accounting Standards Codification (ASC) Topic 606, Revenue from Contracts with Customers, and all related amendments ("the new revenue standard"). We adopted the new revenue standard as of 1 October 2018 under the modified retrospective approach. Comparative prior year information has not been restated and continues to be reported under the accounting standards in effect for those periods. Our updated revenue recognition policy, which reflects the principles under the new revenue standard, is discussed below.

Other than the adoption of new accounting guidance as discussed in Note 2, New Accounting Guidance, there have been no notable changes to our accounting policies during the first three months of fiscal year 2019.

Certain prior year information has been reclassified to conform to the fiscal year 2019 presentation.

Table of Contents

Revenue Recognition

The Company recognizes revenue when or as performance obligations are satisfied, which occurs when control is transferred to the customer.

We determine the transaction price of our contracts based on the amount of consideration to which we expect to be entitled to receive in exchange for the goods or services provided. Our contracts within the scope of revenue guidance do not contain payment terms that would be considered a significant financing component.

Our sale of gas contracts are either accounted for over time during the period in which we deliver or make available the agreed upon quantity of goods or at a point in time when the customer receives and obtains control of the product, which generally occurs upon delivery. We generally recognize revenue from our sale of gas contracts based on the right to invoice practical expedient.

Our sale of equipment contracts are generally comprised of a single performance obligation as the individual promised goods or services contained within the contracts are integrated with or dependent upon other goods or services in the contract for a single output to the customer. Revenue from our sale of equipment contracts is generally recognized over time as we have an enforceable right to payment for performance completed to date and our performance under the contract terms does not create an asset with alternative use. We recognize these contracts using a cost incurred input method by which costs incurred to date relative to total estimated costs at completion are used to measure progress toward satisfying performance obligations.

Amounts billed for shipping and handling fees are classified as sales in the consolidated income statements. Shipping and handling activities for our sale of equipment contracts may be performed after the customer obtains control of the promised goods. In these cases, we have elected to apply the practical expedient to account for shipping and handling as activities to fulfill the promise to transfer the goods. For our sale of gas contracts, control generally transfers to the customer upon delivery.

Amounts billed for sales and use taxes, value-added taxes, and certain excise and other specific transactional taxes imposed on revenue-producing transactions are presented on a net basis and excluded from sales in the consolidated income statements.

For additional information, refer to Note 3, Revenue Recognition.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented in Fiscal Year 2019

Revenue Recognition

In May 2014, the Financial Accounting Standards Board (FASB) issued the new revenue standard, which is based on the principle that revenue is recognized in an amount expected to be collected and to which the entity expects to be entitled in exchange for the transfer of goods or services. We adopted this guidance under the modified retrospective approach as of 1 October 2018. Upon adoption, we no longer present "Contracts in progress, less progress billings" on our consolidated balance sheets and have expanded disclosure requirements. Otherwise, adoption of this guidance did not impact our consolidated financial statements, and no adjustment was necessary to opening retained earnings. Accordingly, sales presented during the first quarter of fiscal year 2019 would not change if presented under accounting standards in effect prior to 1 October 2018.

For additional information, including the balance sheet impacts of no longer presenting "Contracts in progress, less progress billings" and expanded disclosures under the new revenue standard, refer to Note 3, Revenue Recognition.

Cash Flow Statement Classification

In August 2016, the FASB issued guidance to reduce diversity in practice related to the classification of certain cash receipts and cash payments in the statement of cash flows. We adopted this guidance retrospectively in the first quarter of fiscal year 2019 and elected to use the cumulative earnings approach to determine the classification of distributions received from equity affiliates. As a result, we reclassified $4.1 of net activity from operating activities to investing activities for the three months ended 31 December 2017.

Intra-Entity Asset Transfers

In October 2016, the FASB issued guidance on accounting for the income tax effects of intra-entity transfers of assets

other than inventory. Previous guidance prohibited the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset had been sold to an outside party. Under the new guidance, the income tax consequences of an intra-entity asset transfer are recognized when the transfer occurs. We adopted this guidance in the first quarter of fiscal year 2019 on a modified retrospective basis through a cumulative-effect adjustment of $17.1 that decreased retained earnings as of 1 October 2018.

Table of Contents

New Accounting Guidance to be Implemented

Leases

In February 2016, the FASB issued guidance that requires lessees to recognize a right-of-use asset and lease liability on the balance sheet for all leases, including operating leases, with a term in excess of 12 months. The guidance also expands the quantitative and qualitative disclosure requirements.

The Company is the lessee under various agreements for real estate, distribution equipment, aircraft, and vehicles that are currently accounted for as operating leases. The new guidance will require the Company to record all leases, including operating leases, on the balance sheet with a right-of-use asset and corresponding liability for future payment obligations.

We will adopt this guidance in fiscal year 2020. The guidance must be applied using a modified retrospective approach with the option to apply the guidance either at the adoption date or at the earliest comparative period presented in the consolidated financial statements.

We are evaluating the impact the guidance will have on our consolidated financial statements, including the assessment of our current lease population under the revised definition of what qualifies as a leased asset. In addition, we are implementing a new application to administer the accounting and disclosure requirements under the new guidance.

Credit Losses on Financial Instruments

In June 2016, the FASB issued guidance on the measurement of credit losses, which requires measurement and recognition of expected credit losses for financial assets, including trade receivables and capital lease receivables, held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. The method to determine a loss is different from the existing guidance, which requires a credit loss to be recognized when it is probable. The guidance is effective beginning in fiscal year 2021, with early adoption permitted beginning in fiscal year 2020. We are evaluating the impact this guidance will have on our consolidated financial statements.

Hedging Activities

In August 2017, the FASB issued guidance on hedging activities to expand the related presentation and disclosure requirements, change how companies assess effectiveness, and eliminate the separate measurement and reporting of hedge ineffectiveness. The guidance also enables more financial and nonfinancial hedging strategies to become eligible for hedge accounting. The guidance is effective in fiscal year 2020, with early adoption permitted. For cash flow and net investment hedges existing at the date of adoption, an entity should apply a cumulative-effect adjustment to eliminate the separate measurement of ineffectiveness within equity as of the beginning of the fiscal year the guidance is adopted. The amended presentation and disclosure guidance is applied prospectively. We are evaluating the impact this guidance will have on our consolidated financial statements.

Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

In February 2018, the FASB issued guidance allowing a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act. The guidance is effective in fiscal year 2020, with early adoption permitted, including adoption in an interim period. If elected, the reclassification can be applied in either the period of adoption or retrospectively to the period of the enactment of the U.S. Tax Cuts and Jobs Act (i.e., our first quarter of fiscal year 2018). We are evaluating the adoption alternatives and the impact this guidance will have on our consolidated financial statements.

Fair Value Measurement Disclosures

In August 2018, the FASB issued guidance that modifies the disclosure requirements for fair value measurements. The guidance is effective in fiscal year 2021, with early adoption permitted. Certain amendments must be applied prospectively while other amendments must be applied retrospectively. We are evaluating the impact this guidance will have on the disclosures in the notes to our consolidated financial statements.

Retirement Benefit Disclosures

In August 2018, the FASB issued guidance that modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement benefit plans. The guidance is effective in fiscal year 2021, with early adoption permitted, and must be applied on a retrospective basis. We are evaluating the impact this guidance will have on the disclosures in the notes to our consolidated financial statements.

Table of Contents

Cloud Computing Implementation Costs

In August 2018, the FASB issued guidance that aligns the capitalization requirements for implementation costs incurred in a hosting arrangement that is a service contract with the existing capitalization requirements for implementation costs incurred to develop or obtain internal-use software. The guidance is effective in fiscal year 2021, with early adoption permitted, and may be applied either prospectively or retrospectively. We are evaluating the impact this guidance will have on our consolidated financial statements.

Related Party Guidance for Variable Interest Entities

In October 2018, the FASB issued an update that amends the guidance for determining whether a decision-making fee is a variable interest. The amendments require consideration of indirect interests held through related parties under common control on a proportional basis rather than as the equivalent of a direct interest in its entirety as required under current accounting standards. The guidance is effective in fiscal year 2021, with early adoption permitted. The amendments must be applied retrospectively with a cumulative-effect adjustment to retained earnings at the beginning of the earliest period presented. We are evaluating the impact this guidance will have on our consolidated financial statements.

3. REVENUE RECOGNITION

Nature of Goods and Services

The principal activities from which the Company generates its sales from its contracts with customers, separated between our regional industrial gases businesses and industrial gases equipment businesses, are described below with their respective revenue recognition policies. For an overall summary of these policies and discussion on payment terms and presentation, refer to Note 1, Basis of Presentation and Major Accounting Policies.

Industrial Gases – Regional

Our regional industrial gas businesses produce and sell atmospheric gases such as oxygen, nitrogen, and argon (primarily recovered by the cryogenic distillation of air) and process gases such as hydrogen, helium, carbon dioxide, carbon monoxide, syngas, and specialty gases. We distribute gases to our sale of gas customers through different supply modes depending on various factors including the customer's volume requirements and location. Our supply modes are as follows:

On-Site Gases—Supply mode associated with customers who require large volumes of gases and have relatively constant demand. Gases are produced and supplied by large facilities we construct on or near the customers' facilities or by pipeline systems from centrally located production facilities. These sale of gas contracts generally have 15- to 20- year terms. The Company also delivers smaller quantities of product through small on-site plants (cryogenic or non-cryogenic generators), typically via a 10- to 15- year sale of gas contract. The contracts within this supply mode generally contain fixed monthly charges and/or minimum purchase requirements with price escalation provisions that are generally based on external indices. Revenue associated with this supply mode is generally recognized over time during the period in which we deliver or make available the agreed upon quantity of goods.

Merchant Gases—Supply mode associated with liquid bulk and packaged gases customers. Liquid bulk customers receive delivery of product in liquid or gaseous form by tanker or tube trailer. The product is stored, usually in its liquid state, in equipment typically designed and installed by the Company at the customer's site for vaporizing into a gaseous state as needed. Packaged gases customers receive small quantities of product delivered in either cylinders or dewars. Both liquid bulk and packaged gases sales do not contain minimum purchase requirements as they are governed by contracts and/or purchase orders based on the customer's requirements. These contracts contain stated terms that are generally 5 years or less. Performance obligations associated with this supply mode are satisfied at a point in time when the customer receives and obtains control of the product, which generally occurs upon delivery.

The timing of revenue recognition for our regional industrial gases businesses is generally consistent with our right to invoice the customer. Variable components of consideration that may not be resolved within the month, such as the ability to earn an annual bonus or incur a penalty, are more relevant to on-site contracts and are considered constrained as they can be impacted by a single significant event such as a plant outage, which could occur at the end of a contract period. We consider contract modifications on an individual basis to determine appropriate accounting treatment.

However, contract modifications are generally accounted for prospectively as they relate to distinct goods or services associated with future periods of performance.

We mitigate energy and natural gas price risk contractually through pricing formulas, surcharges, and cost pass-through arrangements.

Table of Contents

Industrial Gases – Equipment

The Company designs and manufactures equipment for air separation, hydrocarbon recovery and purification, natural gas liquefaction (LNG), and liquid helium and liquid hydrogen transport and storage. The Industrial Gases – Global and the Corporate and other segments serve our sale of equipment customers.

Our sale of equipment contracts are generally comprised of a single performance obligation as the individual promised goods or services contained within the contracts are integrated with or dependent upon other goods or services in the contract for a single output to the customer.

Revenue from our sale of equipment contracts is generally recognized over time as we have an enforceable right to payment for performance completed to date and our performance under the contract terms does not create an asset with alternative use. Otherwise, sale of equipment contracts are satisfied at the point in time the customer obtains control of the equipment, which is generally determined based on the shipping terms of the contract. For contracts recognized over time, we primarily recognize revenue using a cost incurred input method by which costs incurred to date relative to total estimated costs at completion are used to measure progress toward satisfying performance obligations. Costs incurred include material, labor, and overhead costs and represent work contributing and proportionate to the transfer of control to the customer.

Since our contracts are generally comprised of a single performance obligation, contract modifications are typically accounted for as part of the existing contract and are recognized as a cumulative adjustment for the inception-to-date effect of such change.

Disaggregation of Revenue

The table below presents our consolidated sales disaggregated by each of the supply modes described above for each of our reporting segments. We believe this presentation best depicts the nature, timing, type of customer, and contract terms for our sales.

	Industrial Gases– Americas	Industrial Gases– EMEA	Industrial Gases– Asia	Industrial Gases– Global	Corporate and other	Total	%
Three Months Ended 31 December 2018							
On-site	$596.0	$222.2	$381.0	$—	$—	$1,199.2	54 %
Merchant	393.2	302.0	245.8	—	—	941.0	42 %
Sale of Equipment	—	—	—	68.2	15.6	83.8	4 %
Total	**$989.2**	**$524.2**	**$626.8**	**$68.2**	**$15.6**	**$2,224.0**	**100 %**

Of total consolidated sales, approximately 4% was associated with lease revenue relating to our on-site supply mode and therefore not within the scope of the new revenue standard.

Remaining Performance Obligations

As of 31 December 2018, the transaction price allocated to remaining performance obligations is estimated to be approximately $14 billion. This amount includes fixed-charge contract provisions associated with our on-site and sale of equipment supply modes. We estimate that approximately half of this revenue will be recognized over approximately the next five years and the balance thereafter.

Expected revenue associated with new on-site plants that are not yet onstream is excluded from this amount. In addition, this amount excludes consideration associated with contracts determined to be leases, those with an expected duration of less than one year, and variable consideration for which we recognize revenue at the amount to which we have the right to invoice, including pass-through costs related to energy and natural gas.

In the future, actual amounts will differ due to events outside of our control, including but not limited to inflationary price escalations, currency exchange rates, and terminated or renewed contracts.

Table of Contents

Contract Balances

Upon adoption of the new revenue standard, we no longer present "Contracts in progress, less progress billings" on our consolidated balance sheets. Our sale of equipment contracts generally contain a single performance obligation which, as discussed below, results in presentation of either a contract asset or contract liability. Contracts in progress, less progress billings as of 30 September 2018 has been reclassified to "Other receivables and current assets" on our consolidated balance sheets within this quarterly report.

The table below summarizes the balance sheet impacts of no longer presenting "Contracts in progress, less progress billings" upon adoption of the new revenue standard on 1 October 2018:

	30 September 2018	New Revenue Standard Adjustments	1 October 2018
Assets			
Current Assets			
Cash and cash items	$2,791.3	$—	$2,791.3
Short-term investments	184.7	—	184.7
Trade receivables, net	1,207.2	—	1,207.2
Inventories	396.1	—	396.1
Contracts in progress, less progress billings	77.5	(77.5)	—
Prepaid expenses	129.6	—	129.6
Other receivables and current assets	295.8	103.7	399.5
Total Current Assets	5,082.2	26.2	5,108.4
Total Noncurrent Assets	14,096.1	—	14,096.1
Total Assets	$19,178.3	$26.2	$19,204.5
Liabilities and Equity			
Current Liabilities			
Payables and accrued liabilities	$1,817.8	$26.2	$1,844.0
Accrued income taxes	59.6	—	59.6
Short-term borrowings	54.3	—	54.3
Current portion of long-term debt	406.6	—	406.6
Total Current Liabilities	2,338.3	26.2	2,364.5
Total Noncurrent Liabilities	5,663.7	—	5,663.7
Total Liabilities	8,002.0	26.2	8,028.2
Total Equity	11,176.3	—	11,176.3
Total Liabilities and Equity	$19,178.3	$26.2	$19,204.5

The table below details balances arising from contracts with customers as of our most recent balance sheet date and our date of adoption:

	31 December 2018	1 October 2018
Assets		
Contract assets – current	$51.5	$53.0
Contract fulfillment costs – current	54.0	50.7
Liabilities		
Contract liabilities – current	152.4	174.5
Contract liabilities – noncurrent	52.5	53.5

Contract assets and liabilities result from differences in timing of revenue recognition and customer invoicing. These balances are reported on the consolidated balance sheets on a contract-by-contract basis at the end of each reporting period.

Table of Contents

Contract assets primarily relate to our sale of equipment contracts for which revenue is recognized over time. These balances represent unbilled revenue, which occurs when revenue recognized under the measure of progress exceeds the amount invoiced to our customers. Our ability to invoice the customer for contract asset balances is not only based on the passage of time, but also the achievement of certain contractual milestones. Our contract assets are included within "Other receivables and current assets" on the consolidated balance sheets.
Contract fulfillment costs primarily include deferred costs related to sale of equipment projects that cannot be inventoried and for which we expect to recognize revenue upon transfer of control at project completion or costs related to fulfilling a specific anticipated contract. Contract fulfillment costs are generally classified as current and are included within "Other receivables and current assets" on the consolidated balance sheets.
Costs to obtain a contract, or contract acquisition costs, are capitalized only after we have established a contract with the customer. We elected to apply the practical expedient to expense these costs as they are incurred if the amortization period of the asset that would have otherwise been recognized is one year or less. Our contract acquisition costs for the three months ended 31 December 2018 were not material.
Contract liabilities include advance payments or right to consideration prior to performance under the contract. Contract liabilities are recognized as revenue as, or when, we perform under the contract. The decrease in the contract liability balance during the three months ended 31 December 2018 primarily related to our sale of equipment contracts for which we recognized approximately $50. The current and noncurrent portions of our contract liabilities are included within "Payables and accrued liabilities" and "Other noncurrent liabilities" on our consolidated balance sheets, respectively. Advanced payments from our customers do not represent a significant financing component as these payments are intended for purposes other than financing, such as to meet working capital demands or to protect us from our customer failing to meet its obligations under the terms of the contract.
Changes in contract asset and liability balances during the three months ended 31 December 2018 were not materially impacted by any other factors.

4. ACQUISITIONS

There have been no acquisitions completed during the first quarter of fiscal year 2019.
During the first quarter of fiscal year 2018, we completed three acquisitions that were accounted for as business combinations. These acquisitions had an aggregate purchase price, net of cash acquired, of $237.1. The largest of the acquisitions primarily consisted of three air separation units serving onsite and merchant customers in China, which strengthened our position in the region. The results of this business are consolidated within our Industrial Gases – Asia segment.

5. INVENTORIES

The components of inventories are as follows:

	31 December 2018	30 September 2018
Finished goods	$138.4	$125.4
Work in process	20.4	21.2
Raw materials, supplies and other	244.6	249.5
Inventories	$403.4	$396.1

Table of Contents

6. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the three months ended 31 December 2018 are as follows:

	Industrial Gases– Americas	Industrial Gases– EMEA	Industrial Gases– Asia	Industrial Gases– Global	Corporate and other	Total
Goodwill, net at 30 September 2018	$162.1	$424.4	$171.9	$20.1	$10.4	$788.9
Currency translation and other	(3.2)	(5.2)	(.1)	(.3)	.3	(8.5)
Goodwill, net at 31 December 2018	$158.9	$419.2	$171.8	$19.8	$10.7	$780.4

	31 December 2018	30 September 2018
Goodwill, gross	$1,164.1	$1,194.7
Accumulated impairment losses[(A)]	(383.7)	(405.8)
Goodwill, net	$780.4	$788.9

(A) Accumulated impairment losses are attributable to our Latin America reporting unit (LASA) within the Industrial Gases – Americas segment and include the impacts of currency translation.

We review goodwill for impairment annually in the fourth quarter of the fiscal year and whenever events or changes in circumstances indicate that the carrying value of goodwill might not be recoverable.

7. FINANCIAL INSTRUMENTS

Currency Price Risk Management

Our earnings, cash flows, and financial position are exposed to foreign currency risk from foreign currency-denominated transactions and net investments in foreign operations. It is our policy to seek to minimize our cash flow volatility from changes in currency exchange rates. This is accomplished by identifying and evaluating the risk that our cash flows will change in value due to changes in exchange rates and by executing strategies necessary to manage such exposures. Our objective is to maintain economically balanced currency risk management strategies that provide adequate downside protection.

Forward Exchange Contracts

We enter into forward exchange contracts to reduce the cash flow exposure to foreign currency fluctuations associated with highly anticipated cash flows and certain firm commitments, such as the purchase of plant and equipment. We also enter into forward exchange contracts to hedge the cash flow exposure on intercompany loans. This portfolio of forward exchange contracts consists primarily of Euros and U.S. Dollars. The maximum remaining term of any forward exchange contract currently outstanding and designated as a cash flow hedge at 31 December 2018 is 2.7 years.

Forward exchange contracts are also used to hedge the value of investments in certain foreign subsidiaries and affiliates by creating a liability in a currency in which we have a net equity position. The primary currency pair in this portfolio of forward exchange contracts is Euros and U.S. Dollars.

We also utilize forward exchange contracts that are not designated as hedges. These contracts are used to economically hedge foreign currency-denominated monetary assets and liabilities, primarily working capital. The primary objective of these forward exchange contracts is to protect the value of foreign currency-denominated monetary assets and liabilities from the effects of volatility in foreign exchange rates that might occur prior to their receipt or settlement. This portfolio of forward exchange contracts consists of many different foreign currency pairs, with a profile that changes from time to time depending on business activity and sourcing decisions.

Table of Contents

The table below summarizes our outstanding currency price risk management instruments:

	31 December 2018		30 September 2018	
	US$ Notional	Years Average Maturity	US$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	$2,666.9	0.5	$2,489.1	0.4
Net investment hedges	448.2	1.4	457.5	1.7
Not designated	808.6	1.3	1,736.1	0.8
Total Forward Exchange Contracts	$3,923.7	0.8	$4,682.7	0.7

The notional value of forward exchange contracts not designated decreased from the prior year as a result of maturities.

We also use foreign currency-denominated debt to hedge the foreign currency exposures of our net investment in certain foreign subsidiaries. The designated foreign currency-denominated debt and related accrued interest was €911.1 million ($1,044.7) at 31 December 2018 and €908.8 million ($1,054.6) at 30 September 2018. The designated foreign currency-denominated debt is presented within "Long-term debt" on the consolidated balance sheets.

Debt Portfolio Management

It is our policy to identify, on a continuing basis, the need for debt capital and to evaluate the financial risks inherent in funding the Company with debt capital. Reflecting the result of this ongoing review, our debt portfolio and hedging program are managed with the intent to (1) reduce funding risk with respect to borrowings made by us to preserve our access to debt capital and provide debt capital as required for funding and liquidity purposes, and (2) manage the aggregate interest rate risk and the debt portfolio in accordance with certain debt management parameters.

Interest Rate Management Contracts

We enter into interest rate swaps to change the fixed/variable interest rate mix of our debt portfolio in order to maintain the percentage of fixed- and variable-rate debt within the parameters set by management. In accordance with these parameters, the agreements are used to manage interest rate risks and costs inherent in our debt portfolio. Our interest rate management portfolio generally consists of fixed-to-floating interest rate swaps (which are designated as fair value hedges), pre-issuance interest rate swaps and treasury locks (which hedge the interest rate risk associated with anticipated fixed-rate debt issuances and are designated as cash flow hedges), and floating-to-fixed interest rate swaps (which are designated as cash flow hedges). As of 31 December 2018, the outstanding interest rate swaps were denominated in U.S. Dollars. The notional amount of the interest rate swap agreements is equal to or less than the designated debt being hedged. When interest rate swaps are used to hedge variable-rate debt, the indices of the swaps and the debt to which they are designated are the same. It is our policy not to enter into any interest rate management contracts which lever a move in interest rates on a greater than one-to-one basis.

Cross Currency Interest Rate Swap Contracts

We enter into cross currency interest rate swap contracts when our risk management function deems necessary. These contracts may entail both the exchange of fixed- and floating-rate interest payments periodically over the life of the agreement and the exchange of one currency for another currency at inception and at a specified future date. The contracts are used to hedge either certain net investments in foreign operations or non-functional currency cash flows related to intercompany loans. The current cross currency interest rate swap portfolio consists of fixed-to-fixed swaps primarily between U.S. Dollars and Chinese Renminbi, U.S. Dollars and Chilean Pesos, and U.S. Dollars and Indian Rupee.

Table of Contents

The following table summarizes our outstanding interest rate management contracts and cross currency interest rate swaps:

	31 December 2018				30 September 2018			
	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	$600.0	LIBOR	2.60 %	1.4	$600.0	LIBOR	2.60 %	1.6
Cross currency interest rate swaps (net investment hedge)	$265.4	4.63 %	3.10 %	3.3	$201.7	4.42 %	2.97 %	3.1
Cross currency interest rate swaps (cash flow hedge)	$1,048.6	4.99 %	2.90 %	2.2	$1,052.7	4.99 %	2.89 %	2.3
Cross currency interest rate swaps (not designated)	$16.5	3.33 %	3.15 %	0.2	$80.2	4.88 %	3.43 %	3.9

The table below summarizes the fair value and balance sheet location of our outstanding derivatives:

	Balance Sheet Location	31 December 2018	30 September 2018	Balance Sheet Location	31 December 2018	30 September 2018
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables	$34.7	$24.9	Accrued liabilities	$27.9	$37.0
Interest rate management contracts	Other receivables	23.0	24.3	Accrued liabilities	1.3	2.3
Forward exchange contracts	Other noncurrent assets	25.7	19.8	Other noncurrent liabilities	1.9	4.6
Interest rate management contracts	Other noncurrent assets	39.1	48.7	Other noncurrent liabilities	9.1	11.6
Total Derivatives Designated as Hedging Instruments		$122.5	$117.7		$40.2	$55.5
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables	$.9	$7.9	Accrued liabilities	$1.1	$14.9
Interest rate management contracts	Other receivables	3.6	4.0	Accrued liabilities	—	—
Forward exchange contracts	Other noncurrent assets	21.4	16.2	Other noncurrent liabilities	28.9	23.7
Interest rate management contracts	Other noncurrent assets	—	.3	Other noncurrent liabilities	—	—
Total Derivatives Not Designated as Hedging Instruments		$25.9	$28.4		$30.0	$38.6
Total Derivatives		$148.4	$146.1		$70.2	$94.1

Refer to Note 8, Fair Value Measurements, which defines fair value, describes the method for measuring fair value, and provides additional disclosures regarding fair value measurements.

Table of Contents

The table below summarizes the gain or loss related to our cash flow hedges, fair value hedges, net investment hedges, and derivatives not designated as hedging instruments:

	Three Months Ended 31 December							
	Forward Exchange Contracts		Foreign Currency Debt		Other (A)		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Cash Flow Hedges, net of tax:								
Net gain (loss) recognized in OCI (effective portion)	$4.0	$7.5	$—	$—	($14.3)	($17.0)	($10.3)	($9.5)
Net (gain) loss reclassified from OCI to sales/cost of sales (effective portion)	.5	1.0	—	—	—	—	.5	1.0
Net (gain) loss reclassified from OCI to other income (expense), net (effective portion)	(9.3)	(17.6)	—	—	1.8	16.4	(7.5)	(1.2)
Net (gain) loss reclassified from OCI to interest expense (effective portion)	3.1	.6	—	—	.7	.6	3.8	1.2
Net (gain) loss reclassified from OCI to other income (expense), net (ineffective portion)	.1	(.2)	—	—	—	—	.1	(.2)
Fair Value Hedges:								
Net gain (loss) recognized in interest expense(B)	$—	$—	$—	$—	$2.6	($3.2)	$2.6	($3.2)
Net Investment Hedges, net of tax:								
Net gain (loss) recognized in OCI	$11.8	($7.5)	$9.6	($17.3)	$.6	($11.2)	$22.0	($36.0)
Derivatives Not Designated as Hedging Instruments:								
Net gain (loss) recognized in other income (expense), net(C)	($.1)	($1.5)	$—	$—	$.8	($1.3)	$.7	($2.8)

(A) Includes the impact on other comprehensive income (OCI) and earnings primarily related to interest rate and cross currency interest rate swaps.

(B) The impact of fair value hedges was largely offset by recognized gains and losses resulting from the impact of changes in related interest rates on outstanding debt.

(C) The impact of the non-designated hedges was largely offset by recognized gains and losses resulting from the impact of changes in exchange rates on assets and liabilities denominated in non-functional currencies.

The amount of unrealized gains and losses related to cash flow hedges as of 31 December 2018 that are expected to be reclassified to earnings in the next twelve months is not material.

The cash flows related to all derivative contracts are reported in the operating activities section of the consolidated statements of cash flows.

Credit Risk-Related Contingent Features

Certain derivative instruments are executed under agreements that require us to maintain a minimum credit rating with both Standard & Poor’s and Moody’s. If our credit rating falls below this threshold, the counterparty to the derivative instruments has the right to request full collateralization on the derivatives’ net liability position. The net liability position of derivatives with credit risk-related contingent features was $25.1 and $33.4 as of 31 December 2018 and 30 September 2018, respectively. Because our current credit rating is above the various pre-established thresholds, no collateral has been posted on these liability positions.

Counterparty Credit Risk Management

We execute financial derivative transactions with counterparties that are highly rated financial institutions, all of which are investment grade at this time. Some of our underlying derivative agreements give us the right to require the institution to post collateral if its credit rating falls below the pre-established thresholds with Standard & Poor’s or Moody’s. The collateral that the counterparties would be required to post was $100.8 and $97.6 as of 31 December 2018 and 30 September 2018, respectively. No financial institution is required to post collateral at this time as all have credit ratings at or above threshold.

19

Table of Contents

8. FAIR VALUE MEASUREMENTS

Fair value is defined as an exit price, or 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.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability.

Level 3 — Inputs that are unobservable for the asset or liability based on our own assumptions about the assumptions market participants would use in pricing the asset or liability.

The methods and assumptions used to measure the fair value of financial instruments are as follows:

Short-term Investments

Short-term investments primarily include time deposits and treasury securities with original maturities greater than three months and less than one year. The estimated fair value of the short-term investments, which approximates carrying value as of 31 December 2018 and 30 September 2018, was determined using level 2 inputs within the fair value hierarchy. Level 2 measurements were based on current interest rates for similar investments with comparable credit risk and time to maturity.

Derivatives

The fair value of our interest rate management contracts and forward exchange contracts are quantified using the income approach and are based on estimates using standard pricing models. These models consider the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. The computation of the fair values of these instruments is generally performed by the Company. These standard pricing models utilize inputs that are derived from or corroborated by observable market data such as interest rate yield curves as well as currency spot and forward rates; therefore, the fair value of our derivatives is classified as a level 2 measurement. On an ongoing basis, we randomly test a subset of our valuations against valuations received from the transaction's counterparty to validate the accuracy of our standard pricing models. Counterparties to these derivative contracts are highly rated financial institutions. Refer to Note 7, Financial Instruments, for a description of derivative instruments, including details related to the balance sheet line classifications.

Long-term Debt, Including Related Party

The fair value of our debt is based on estimates using standard pricing models that consider the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. These standard valuation models utilize observable market data such as interest rate yield curves and currency spot rates; therefore, the fair value of our debt is classified as a level 2 measurement. We generally perform the computation of the fair value of these instruments.

The carrying values and fair values of financial instruments were as follows:

	31 December 2018		30 September 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	$82.7	$82.7	$68.8	$68.8
Interest rate management contracts	65.7	65.7	77.3	77.3
Liabilities				
Derivatives				
Forward exchange contracts	$59.8	$59.8	$80.2	$80.2
Interest rate management contracts	10.4	10.4	13.9	13.9
Long-term debt, including current portion and related party	3,744.9	3,782.9	3,758.3	3,788.2

Table of Contents

The carrying amounts reported on the consolidated balance sheets for cash and cash items, short-term investments, trade receivables, payables and accrued liabilities, accrued income taxes, and short-term borrowings approximate fair value due to the short-term nature of these instruments. Accordingly, these items have been excluded from the above table.

The following table summarizes assets and liabilities on the consolidated balance sheets that are measured at fair value on a recurring basis :

	31 December 2018				30 September 2018			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	$82.7	$—	$82.7	$—	$68.8	$—	$68.8	$—
Interest rate management contracts	65.7	—	65.7	—	77.3	—	77.3	—
Total Assets at Fair Value	$148.4	$—	$148.4	$—	$146.1	$—	$146.1	$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	$59.8	$—	$59.8	$—	$80.2	$—	$80.2	$—
Interest rate management contracts	10.4	—	10.4	—	13.9	—	13.9	—
Total Liabilities at Fair Value	$70.2	$—	$70.2	$—	$94.1	$—	$94.1	$—

9. RETIREMENT BENEFITS

The components of net periodic benefit cost for our defined benefit pension plans for the three months ended 31 December 2018 and 2017 were as follows:

	Pension Benefits			
	2018		2017	
Three Months Ended 31 December	U.S.	International	U.S.	International
Service cost	$5.4	$4.9	$6.4	$6.3
Interest cost	28.4	9.0	26.7	9.2
Expected return on plan assets	(43.1)	(18.9)	(50.4)	(20.2)
Prior service cost amortization	.3	—	.4	—
Actuarial loss amortization	16.1	2.8	21.7	10.0
Settlements	.8	.2	1.8	—
Special termination benefits	.7	—	—	—
Other	—	.3	—	.5
Net Periodic (Benefit) Cost	$8.6	($1.7)	$6.6	$5.8

Our service costs are primarily included within "Cost of sales" and "Selling and administrative" on our consolidated income statements. The amount of service costs capitalized in fiscal years 2019 and 2018 were not material. The non-service related costs, including pension settlement losses, are presented outside operating income within "Other non-operating income (expense), net."

For the three months ended 31 December 2018 and 2017, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were $19.5 and $27.4, respectively. Total contributions for fiscal year 2019 are expected to be approximately $45 to $65. During fiscal year 2018, total contributions were $68.3.

U.K. Lloyds Pensions Equalization Ruling
On 26 October 2018, the United Kingdom High Court issued a ruling related to the equalization of pension plan participants' benefits for the gender effects of Guaranteed Minimum Pensions. As a result of this ruling, we estimated the impact of retroactively increasing benefits in our U.K. plan in accordance with the High Court ruling. We treated the additional benefits as a prior service cost which resulted in an increase to our projected benefit obligation and accumulated other comprehensive loss of $4.7. We will amortize this cost over the average remaining life expectancy of the U.K. participants. Given the immaterial effect on the U.K. plan's projected benefit, an interim remeasurement was not performed.

10. COMMITMENTS AND CONTINGENCIES

Litigation
We are involved in various legal proceedings, including commercial, competition, environmental, health, safety, product liability, and insurance matters. In September 2010, the Brazilian Administrative Council for Economic Defense (CADE) issued a decision against our Brazilian subsidiary, Air Products Brasil Ltda., and several other Brazilian industrial gas companies for alleged anticompetitive activities. CADE imposed a civil fine of R$179.2 million (approximately $46 at 31 December 2018) on Air Products Brasil Ltda. This fine was based on a recommendation by a unit of the Brazilian Ministry of Justice, whose investigation began in 2003, alleging violation of competition laws with respect to the sale of industrial and medical gases. The fines are based on a percentage of our total revenue in Brazil in 2003.
We have denied the allegations made by the authorities and filed an appeal in October 2010 with the Brazilian courts. On 6 May 2014, our appeal was granted and the fine against Air Products Brasil Ltda. was dismissed. CADE has appealed that ruling and the matter remains pending. We, with advice of our outside legal counsel, have assessed the status of this matter and have concluded that, although an adverse final judgment after exhausting all appeals is possible, such a judgment is not probable. As a result, no provision has been made in the consolidated financial statements. We estimate the maximum possible loss to be the full amount of the fine of R$179.2 million (approximately $46 at 31 December 2018) plus interest accrued thereon until final disposition of the proceedings. Other than this matter, we do not currently believe there are any legal proceedings, individually or in the aggregate, that are reasonably possible to have a material impact on our financial condition, results of operations, or cash flows.
Environmental
In the normal course of business, we are involved in legal proceedings under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA: the federal Superfund law); Resource Conservation and Recovery Act (RCRA); and similar state and foreign environmental laws relating to the designation of certain sites for investigation or remediation. Presently, there are 32 sites on which a final settlement has not been reached where we, along with others, have been designated a potentially responsible party by the Environmental Protection Agency or are otherwise engaged in investigation or remediation, including cleanup activity at certain of our current and former manufacturing sites. We continually monitor these sites for which we have environmental exposure.
Accruals for environmental loss contingencies are recorded when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. The consolidated balance sheets at 31 December 2018 and 30 September 2018 included an accrual of $74.4 and $76.8, respectively, primarily as part of other noncurrent liabilities. The environmental liabilities will be paid over a period of up to 30 years. We estimate the exposure for environmental loss contingencies to range from $74 to a reasonably possible upper exposure of $88 as of 31 December 2018. Actual costs to be incurred at identified sites in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures. Using reasonably possible alternative assumptions of the exposure level could result in an increase to the environmental accrual. Due to the inherent uncertainties related to environmental exposures, a significant increase to the reasonably possible upper exposure level could occur if a new site is designated, the scope of remediation is increased, a different remediation alternative is identified, or a significant increase in our proportionate share occurs. We do not expect that any sum we may have to pay in connection with environmental matters in excess of the amounts recorded or disclosed above would have a material

adverse impact on our financial position or results of operations in any one year.

Table of Contents

PACE

At 31 December 2018, $25.5 of the environmental accrual was related to the Pace facility.

In 2006, we sold our Amines business, which included operations at Pace, Florida, and recognized a liability for retained environmental obligations associated with remediation activities at Pace. We are required by the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (USEPA) to continue our remediation efforts. We estimated that it would take a substantial period of time to complete the groundwater remediation, and the costs through completion were estimated to range from $42 to $52. As no amount within the range was a better estimate than another, we recognized a before-tax expense of $42 in fiscal 2006 as a component of income from discontinued operations and recorded an environmental accrual of $42 in continuing operations on the consolidated balance sheets. There has been no change to the estimated exposure range related to the Pace facility.

We have implemented many of the remedial corrective measures at the Pace facility required under 1995 Consent Orders issued by the FDEP and the USEPA. Contaminated soils have been bioremediated, and the treated soils have been secured in a lined on-site disposal cell. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. We completed an extensive assessment of the site to determine how well existing measures are working, what additional corrective measures may be needed, and whether newer remediation technologies that were not available in the 1990s might be suitable to more quickly and effectively remove groundwater contaminants. Based on assessment results, we completed a focused feasibility study that has identified alternative approaches that may more effectively remove contaminants. We continue to review alternative remedial approaches with the FDEP and have started additional field work to support the design of an improved groundwater recovery network with the objective of targeting areas of higher contaminant concentration and avoiding areas of high groundwater iron which has proven to be a significant operability issue for the project. In the first quarter of 2015, we entered into a new Consent Order with the FDEP requiring us to continue our remediation efforts at the Pace facility. The costs we are incurring under the new Consent Order are consistent with our previous estimates.

PIEDMONT

At 31 December 2018, $15.5 of the environmental accrual was related to the Piedmont site.

On 30 June 2008, we sold our Elkton, Maryland, and Piedmont, South Carolina, production facilities and the related North American atmospheric emulsions and global pressure sensitive adhesives businesses. In connection with the sale, we recognized a liability for retained environmental obligations associated with remediation activities at the Piedmont site. This site is under active remediation for contamination caused by an insolvent prior owner.

We are required by the South Carolina Department of Health and Environmental Control (SCDHEC) to address both contaminated soil and groundwater. Numerous areas of soil contamination have been addressed, and contaminated groundwater is being recovered and treated. The SCDHEC issued its final approval to the site-wide feasibility study on 13 June 2017 and the Record of Decision for the site on 27 June 2018. Field work has started to support the remedial design, and in the fourth quarter of fiscal year 2018, we signed a Consent Agreement Amendment memorializing our obligations to complete the cleanup of the site. We estimate that source area remediation and groundwater recovery and treatment will continue through 2029. Thereafter, we expect this site to go into a state of monitored natural attenuation through 2047.

We recognized a before-tax expense of $24 in 2008 as a component of income from discontinued operations and recorded an environmental liability of $24 in continuing operations on the consolidated balance sheets. There have been no significant changes to the estimated exposure.

PASADENA

At 31 December 2018, $11.7 of the environmental accrual was related to the Pasadena site.

During the fourth quarter of 2012, management committed to permanently shutting down our polyurethane intermediates (PUI) production facility in Pasadena, Texas. In shutting down and dismantling the facility, we have undertaken certain obligations related to soil and groundwater contaminants. We have been pumping and treating groundwater to control off-site contaminant migration in compliance with regulatory requirements and under the approval of the Texas Commission on Environmental Quality (TCEQ). We estimate that the pump and treat system will continue to operate until 2042.

We plan to perform additional work to address other environmental obligations at the site. This additional work includes remediating, as required, impacted soils, investigating groundwater west of the former PUI facility, performing post closure care for two closed RCRA surface impoundment units, and establishing engineering controls. In 2012, we estimated the total exposure at this site to be $13. There have been no significant changes to the estimated exposure.

Table of Contents

11. SHARE-BASED COMPENSATION

We have various share-based compensation programs, which include deferred stock units, stock options, and restricted stock. During the three months ended 31 December 2018, we granted market-based and time-based deferred stock units. Under all programs, the terms of the awards are fixed at the grant date. We issue shares from treasury stock upon the payout of deferred stock units, the exercise of stock options, and the issuance of restricted stock awards. As of 31 December 2018, there were 4,457,885 shares available for future grant under our Long-Term Incentive Plan (LTIP), which is shareholder approved.

Share-based compensation cost recognized on the consolidated income statements is summarized below:

	Three Months Ended 31 December	
	2018	2017
Before-tax share-based compensation cost	$9.3	$11.8
Income tax benefit	(2.2)	(3.2)
After-tax share-based compensation cost	$7.1	$8.6

Before-tax share-based compensation cost is primarily included in "Selling and administrative" on our consolidated income statements. The amount of share-based compensation cost capitalized in the first three months of fiscal years 2019 and 2018 was not material.

Deferred Stock Units

During the three months ended 31 December 2018, we granted 114,300 market-based deferred stock units. The market-based deferred stock units are earned at the end of the performance period beginning 1 October 2018 and ending 30 September 2021, conditioned on the level of the Company's total shareholder return in relation to a defined peer group over the three-year performance period.

The market-based deferred stock units had an estimated grant-date fair value of $229.61 per unit, which was estimated using a Monte Carlo simulation model. The model utilizes multiple input variables that determine the probability of satisfying the market condition stipulated in the grant and calculates the fair value of the awards. We generally expense the grant-date fair value of these awards on a straight-line basis over the vesting period. The calculation of the fair value of market-based deferred stock units used the following assumptions:

Expected volatility	17.5%
Risk-free interest rate	2.8%
Expected dividend yield	2.6%

In addition, during the three months ended 31 December 2018, we granted 153,308 time-based deferred stock units at a weighted average grant-date fair value of $166.56.

12. ACCUMULATED OTHER COMPREHENSIVE LOSS

The tables below summarize changes in accumulated other comprehensive loss (AOCL), net of tax, attributable to Air Products for the three months ended 31 December 2018:

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 30 September 2018	($37.6)	($1,009.8)	($694.5)	($1,741.9)
Other comprehensive loss before reclassifications	(10.3)	(68.1)	(3.9)	(82.3)
Amounts reclassified from AOCL	(3.1)	—	15.2	12.1
Net current period other comprehensive income (loss)	(13.4)	(68.1)	11.3	(70.2)
Amount attributable to noncontrolling interests	(.1)	(.8)	—	(.9)
Balance at 31 December 2018	($50.9)	($1,077.1)	($683.2)	($1,811.2)

Table of Contents

The table below summarizes the reclassifications out of AOCL and the affected line item on the consolidated income statements:

	Three Months Ended 31 December	
	2018	2017
(Gain) Loss on Cash Flow Hedges, net of tax		
Sales/Cost of sales	$.5	$1.0
Other income/expense, net	(7.4)	(1.4)
Interest expense	3.8	1.2
Total (Gain) Loss on Cash Flow Hedges, net of tax	($3.1)	$.8
Currency Translation Adjustment(A)	$—	$3.1
Pension and Postretirement Benefits, net of tax(B)	$15.2	$22.9

(A) The fiscal year 2018 impact is reflected in "Cost of sales" on the consolidated income statements and relates to an equipment sale resulting from the termination of a contract in the Industrial Gases – Asia segment.

(B) The components of net periodic benefit cost reclassified out of AOCL include items such as prior service cost amortization, actuarial loss amortization, and settlements and are included in "Other non-operating income (expense), net" on the consolidated income statements. Refer to Note 9, Retirement Benefits, for additional information.

13. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per share (EPS):

	Three Months Ended 31 December	
	2018	2017
Numerator		
Income from continuing operations	$347.5	$155.6
Loss from discontinued operations	—	(1.0)
Net Income Attributable to Air Products	$347.5	$154.6
Denominator (in millions)		
Weighted average common shares — Basic	219.9	218.9
Effect of dilutive securities		
Employee stock option and other award plans	1.1	1.5
Weighted average common shares — Diluted	221.0	220.4
Basic EPS Attributable to Air Products		
Income from continuing operations	$1.58	$.71
Loss from discontinued operations	—	—
Net Income Attributable to Air Products	$1.58	$.71
Diluted EPS Attributable to Air Products		
Income from continuing operations	$1.57	$.70
Loss from discontinued operations	—	—
Net Income Attributable to Air Products	$1.57	$.70

Outstanding share-based awards of .1 million were antidilutive and therefore excluded from the computation of diluted EPS for the three months ended 31 December 2017. There were no antidilutive outstanding share-based awards for the three months ended 31 December 2018.

Table of Contents

14. INCOME TAXES

U.S. Tax Cuts and Jobs Act

On 22 December 2017, the United States enacted the U.S. Tax Cuts and Jobs Act ("the Tax Act"), which significantly changed existing U.S. tax laws, including a reduction in the federal corporate income tax rate from 35% to 21%, a deemed repatriation tax on unremitted foreign earnings, as well as other changes. During the first quarter of fiscal year 2019, we recorded a discrete net income tax expense of $40.6 to finalize our estimates of the impacts of the Tax Act. The net expense includes the reversal of the $56.2 benefit recorded in the fourth quarter of fiscal year 2018 related to the U.S. taxation of deemed foreign dividends. We recorded this reversal based on our intent to follow proposed regulations that were issued during the first quarter of 2019. Additionally, we recorded a benefit of $15.6 to finalize our estimates of the impacts of the Tax Act and reduce the total expected costs of the deemed repatriation tax. During the three months ended 31 December 2017, we recorded a discrete net income tax expense of $206.5 for our initial provisional estimates of the impacts of the Tax Act and a reduction to equity affiliates' income of $32.5 related to the Tax Act for future costs of repatriation that will be borne by an equity affiliate.

We consider our accounting for the provisions of the Tax Act complete as of 31 December 2018, within the prescribed one-year measurement period. The total collective impact of the Tax Act is a net tax expense of $221.2 and a reduction to equity affiliates' income of $28.5 for future costs of repatriation that will be borne by an equity affiliate. The net expense of $221.2 includes an expense of $433.0, of which $368.3 relates to the deemed repatriation tax and $64.7 relates primarily to additional foreign taxes on the repatriation of foreign earnings, partially offset by a benefit of $211.8 primarily from the re-measurement of our net U.S. deferred tax liabilities at the lower corporate tax rate.

Due to the Company’s fiscal year, certain amounts will be finalized upon the completion and filing of our U.S. federal 2018 tax return, which is due in the fourth quarter of fiscal year 2019. Any changes to the tax positions reflected in the tax return could result in an adjustment to the impact of the Tax Act.

Primarily due to the impact of the Tax Act, the effective tax rate was 27.0% and 64.2% for the three months ended 31 December 2018 and 2017, respectively.

Cash Paid for Taxes (Net of Cash Refunds)

Income tax payments, net of refunds, were $28.7 and $61.0 for the three months ended 31 December 2018 and 2017, respectively.

15. SUPPLEMENTAL INFORMATION

Facility Closure

In December 2018, one of our customers was subject to a government enforced shutdown due to environmental reasons. As a result, we recognized a charge of $29.0, primarily related to the write-off of onsite assets, during the first quarter of fiscal year 2019. This charge is reflected on our consolidated income statements as “Facility closure” and has been excluded from segment results. Annual sales and operating income associated with this customer prior to the facility closure were not material to the Industrial Gases – Asia segment. We do not expect to recognize additional charges related to this shutdown.

Related Party Transactions

We have related party sales to some of our equity affiliates and joint venture partners. Sales to related parties totaled approximately $85 and $105 for the three months ended 31 December 2018 and 2017, respectively. Agreements with related parties include terms that are consistent with those that we believe would have been negotiated at an arm’s length with an independent party.

During fiscal year 2018, we completed the formation of Air Products Lu An (Changzhi) Co., Ltd. ("the JV"), a 60%-owned joint venture with Lu'An Clean Energy Company ("Lu'An"), and the JV acquired gasification and syngas clean-up assets from Lu'An. In connection with the acquisition, Lu'An made a loan to the JV of 2.6 billion RMB and we established a liability of 2.3 billion RMB for cash payments expected to be made to or on behalf of Lu'An in 2019. Long-term debt payable to Lu'An of $360.2 and $384.3 as of 31 December 2018 and 30 September 2018, respectively, is presented on the consolidated balance sheets as "Long-term debt – related party." As of 31 December 2018, $23.6 of the loan is reflected within "Current portion of long-term debt." The expected remaining cash payments are presented

within "Payables and accrued liabilities" and were 1.9 billion RMB ($283.3) as of 31 December 2018. As of 30 September 2018, this liability was 2.2 billion RMB ($330.0).

Table of Contents

16. BUSINESS SEGMENT INFORMATION

Our reporting segments reflect the manner in which our chief operating decision maker reviews results and allocates resources. Except in the Industrial Gases – EMEA and Corporate and other segments, each reporting segment meets the definition of an operating segment and does not include the aggregation of multiple operating segments. Our Industrial Gases – EMEA and Corporate and other segments each include the aggregation of two operating segments that meet the aggregation criteria under GAAP.

Our reporting segments are:

- Industrial Gases – Americas
- Industrial Gases – EMEA (Europe, Middle East, and Africa)
- Industrial Gases – Asia
- Industrial Gases – Global
- Corporate and other

	Industrial Gases – Americas	Industrial Gases – EMEA	Industrial Gases – Asia	Industrial Gases – Global	Corporate and other	Segment Total
Three Months Ended 31 December 2018						
Sales	$989.2	$524.2	$626.8	$68.2	$15.6	$2,224.0
Operating income (loss)	219.2	105.6	201.8	3.9	(46.5)	484.0
Depreciation and amortization	125.6	46.3	79.9	2.1	4.1	258.0
Equity affiliates' income	22.6	13.7	16.2	.4	—	52.9
Three Months Ended 31 December 2017						
Sales	$909.8	$515.9	$643.6	$133.0	$14.3	$2,216.6
Operating income (loss)	217.2	104.5	175.5	9.5	(46.0)	460.7
Depreciation and amortization	117.8	49.1	56.8	1.6	2.6	227.9
Equity affiliates' income	18.6	13.1	14.2	.4	—	46.3
Total Assets						
31 December 2018	$5,859.6	$3,214.6	$6,037.0	$255.4	$3,775.4	$19,142.0
30 September 2018	5,904.0	3,280.4	5,899.5	240.1	3,854.3	19,178.3

The sales information noted above relates to external customers only. All intersegment sales are eliminated in consolidation. For the three months ended 31 December 2018 and 2017, the Industrial Gases – Global segment had intersegment sales of $68.6 and $61.9, respectively. These sales are generally transacted at market pricing.

We generally do not have intersegment sales from our regional industrial gases businesses. Equipment manufactured for our industrial gases segments is generally transferred at cost and not reflected as an intersegment sale.

Changes in estimates on projects accounted for under the cost incurred input method are recognized as a cumulative adjustment for the inception-to-date effect of such change. Changes in estimates favorably impacted operating income by approximately $10 for the three months ended 31 December 2018. Changes in estimates during the three months ended 31 December 2017 did not have a material impact to operating income.

Below is a reconciliation of segment total operating income to consolidated operating income:

	Three Months Ended 31 December	
Operating Income	2018	2017
Segment total	$484.0	$460.7
Facility closure	(29.0)	—

Consolidated Total	$455.0	$460.7

Table of Contents

Below is a reconciliation of segment total equity affiliates' income to consolidated equity affiliates' income:

	Three Months Ended 31 December	
Equity Affiliates' Income	2018	2017
Segment total	$52.9	$46.3
Tax reform repatriation - equity method investment	—	(32.5)
Consolidated Total	$52.9	$13.8

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

First Quarter 2019 in Summary	29
Results of Operations	30
Reconciliation of Non-GAAP Financial Measures	35
Liquidity and Capital Resources	39
Contractual Obligations	41
Pension Benefits	41
Commitments and Contingencies	41
Off-Balance Sheet Arrangements	41
Related Party Transactions	42
Critical Accounting Policies and Estimates	42
New Accounting Guidance	42

The disclosures in this quarterly report are complementary to those made in our 2018 Form 10-K. An analysis of results for the first quarter of fiscal year 2019 is provided in this Management’s Discussion and Analysis.

The following discussion should be read in conjunction with the consolidated financial statements and the accompanying notes contained in this quarterly report. Unless otherwise indicated, financial information is presented on a continuing operations basis. All comparisons in the discussion are to the corresponding prior year, unless otherwise stated. All amounts presented are in accordance with U.S. generally accepted accounting principles (GAAP), except as noted. All amounts are presented in millions of dollars, except for per share data, unless otherwise indicated. Captions such as income from continuing operations attributable to Air Products, net income attributable to Air Products, and diluted earnings per share attributable to Air Products are simply referred to as “income from continuing operations,” “net income,” and “diluted earnings per share (EPS)” throughout this Management’s Discussion and Analysis, unless otherwise stated.

The discussion of results that follows includes comparisons to certain non-GAAP ("adjusted") financial measures. The presentation of non-GAAP measures is intended to provide investors, potential investors, securities analysts, and others with useful supplemental information to evaluate the performance of the business because such measures, when viewed together with our financial results computed in accordance with GAAP, provide a more complete understanding of the factors and trends affecting our historical financial performance and projected future results. The reconciliations of reported GAAP results to non GAAP measures are presented on pages 35-39. Descriptions of the excluded items appear on pages 31-32.

Table of Contents

FIRST QUARTER 2019 VS. FIRST QUARTER 2018
FIRST QUARTER 2019 IN SUMMARY

- Sales of $2,224.0 were flat versus the prior year as higher energy and natural gas cost pass-through to customers and positive pricing was offset primarily by unfavorable volumes and currency impacts.
- Operating income of $455.0 decreased 1%, or $5.7, and operating margin of 20.5% decreased 30 basis points (bp). On a non-GAAP basis, adjusted operating income of $484.0 increased 5%, or $23.3, and adjusted operating margin of 21.8% increased 100 bp.
- Income from continuing operations of $347.5 increased 123%, or $191.9. On a non-GAAP basis, adjusted income from continuing operations of $410.2 increased 4%, or $15.6.
- Diluted EPS of $1.57 increased 124%, or $.87. On a non-GAAP basis, adjusted diluted EPS of $1.86 increased 4%, or $.07. A summary table of changes in diluted EPS is presented below.
- Adjusted EBITDA of $794.9 increased 8%, or $60.0. Adjusted EBITDA margin of 35.7% increased 250 bp.

Changes in Diluted EPS Attributable to Air Products

	Three Months Ended		
	31 December		Increase
	2018	2017	(Decrease)
Diluted EPS from Continuing Operations – GAAP	**$1.57**	**$.70**	**$.87**
Operating Income Impact (after-tax)			
Underlying business			
Volume			$.13
Price/raw materials			.05
Costs			(.06)
Currency			(.04)
Facility closure			(.10)
Total Operating Income Impact (after-tax)			**($.02)**
Other Impact (after-tax)			
Equity affiliates' income			$.03
Interest expense			(.03)
Other non-operating income (expense), net			.03
Income tax			(.03)
Tax reform repatriation			2.13
Tax reform adjustment related to deemed foreign dividends			(.26)
Tax reform rate change and other			(.97)
Noncontrolling interests			(.01)
Total Other Impact (after-tax)			**$.89**
Total Change in Diluted EPS from Continuing Operations – GAAP			**$.87**

Table of Contents

	Three Months Ended 31 December		Increase
	2018	2017	(Decrease)
Diluted EPS from Continuing Operations – GAAP	**$1.57**	**$.70**	**$.87**
Facility closure	.10	—	.10
Tax reform repatriation	(.07)	2.06	(2.13)
Tax reform adjustment related to deemed foreign dividends	.26	—	.26
Tax reform rate change and other	—	(.97)	.97
Diluted EPS from Continuing Operations – Non-GAAP Measure	**$1.86**	**$1.79**	**$.07**

RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Three Months Ended 31 December			
	2018	2017	$ Change	Change
Sales	$2,224.0	$2,216.6	$7.4	— %
Operating income	455.0	460.7	(5.7)	(1)%
Operating margin	20.5 %	20.8 %		(30) bp
Equity affiliates' income	52.9	13.8	39.1	283 %
Income from continuing operations	347.5	155.6	191.9	123 %
Non-GAAP Measures				
Adjusted EBITDA	$794.9	$734.9	$60.0	8 %
Adjusted EBITDA margin	35.7 %	33.2 %		250 bp
Adjusted operating income	484.0	460.7	23.3	5 %
Adjusted operating margin	21.8 %	20.8 %		100 bp
Adjusted equity affiliates' income	52.9	46.3	6.6	14 %

Sales	% Change from Prior Year
Underlying business	
Volume	(3)%
Price	1 %
Energy and natural gas cost pass-through	5 %
Currency	(2)%
Other	(1)%
Total Consolidated Change	**— %**

Sales of $2,224.0 were flat versus the prior year. Underlying sales decreased 2% as unfavorable volumes of 3% were partially offset by higher pricing of 1%. The decrease in volumes was primarily driven by lower sale of equipment activity on the Jazan project and a prior year equipment sale resulting from a contract termination in the Industrial Gases – Asia segment. Excluding these items, volumes increased 5% due to base business growth across the regional industrial gases segments and the full onstream of the Lu'An project in Asia. Pricing also improved across the regional segments, primarily driven by our merchant business. Higher energy and natural gas cost pass-through to customers increased sales by 5%, unfavorable currency impacts, primarily from the Chinese Renminbi, Euro, Indian Rupee, and Chilean Peso, decreased sales by 2%, and the modification of an existing hydrogen supply contract to a tolling arrangement in India, reflected in the table above as "other," decreased sales by 1%.

Table of Contents

Operating Income and Margin

Operating income of $455.0 decreased 1%, or $5.7, as a charge for a facility closure of $29, higher net operating costs of $15, and unfavorable currency impacts of $11 were partially offset by higher volumes of $35 and favorable pricing, net of energy, fuel, and raw material costs, of $14. The increase in net operating costs was primarily driven by higher costs in the Industrial Gases – Americas segment, including planned maintenance and transportation costs. Operating margin of 20.5% decreased 30 bp as the impacts of the facility closure, higher net operating costs, and higher energy and natural gas cost pass-through to customers were partially offset by higher volumes and favorable pricing.

On a non-GAAP basis, adjusted operating income of $484.0 increased 5%, or $23.3, primarily due to higher volumes and favorable pricing, net of energy, fuel, and raw material costs, partially offset by unfavorable net operating costs and currency impacts. Adjusted operating margin of 21.8% increased 100 bp, primarily due to the higher volumes and favorable pricing, partially offset by higher net operating costs and higher energy and natural gas cost pass-through to customers.

Adjusted EBITDA

We define Adjusted EBITDA as income from continuing operations (including noncontrolling interests) excluding certain disclosed items, which the Company does not believe to be indicative of underlying business trends, before interest expense, other non-operating income (expense), net, income tax provision, and depreciation and amortization expense. Adjusted EBITDA provides a useful metric for management to assess operating performance.

Adjusted EBITDA of $794.9 increased 8%, or $60.0, primarily due to higher volumes, positive pricing, and higher income from equity affiliates, partially offset by higher operating costs and unfavorable currency impacts. Adjusted EBITDA margin of 35.7% increased 250 bp, primarily due to favorable volumes, higher income from equity affiliates, and positive pricing, partially offset by higher energy and natural gas cost pass-through to customers and higher operating costs.

Equity Affiliates' Income

Equity affiliates' income of $52.9 increased $39.1, primarily due to a prior year expense of $32.5 resulting from the U.S. Tax Cuts and Jobs Act. Refer to Note 14, Income Taxes, to the consolidated financial statements for additional information. On a non-GAAP basis, equity affiliates' income of $52.9 increased $6.6, or 14%, primarily driven by Industrial Gases – Americas affiliates.

Cost of Sales and Gross Margin

Cost of sales, including the facility closure discussed below, of $1,573.0 was flat versus the prior year as lower costs attributable to sales volumes of $92 and favorable currency impacts of $39 were partially offset by higher energy and natural gas cost pass-through to customers of $97, the facility closure of $29, and higher other costs of $5. Gross margin of 29.3% increased 20 bp, primarily due to favorable volume mix and positive pricing, partially offset by the facility closure and higher other costs. Excluding the facility closure, cost of sales of $1,544.0 decreased 2%, or $27.8, and gross margin of 30.6% increased 150 bp, primarily due to favorable volume mix and positive pricing, partially offset by higher other costs.

Facility Closure

In December 2018, one of our customers was subject to a government enforced shutdown due to environmental reasons. As a result, we recognized a charge of $29.0 ($22.1 after-tax, or $.10 per share), primarily related to the write-off of onsite assets, during the first quarter of fiscal year 2019. This charge is reflected on our consolidated income statements as “Facility closure” and has been excluded from segment results. Annual sales and operating income associated with this customer prior to the facility closure were not material to the Industrial Gases – Asia segment. We do not expect to recognize additional charges related to this shutdown.

Selling and Administrative Expense

Selling and administrative expense of $189.6 decreased 1%, or $2.0. Selling and administrative expense as a percentage of sales decreased from 8.6% to 8.5%.

Research and Development

Research and development expense of $15.0 increased 3%, or $.4. For both the three months ended 31 December 2018 and 2017, research and development expense as a percentage of sales was .7%.

Other Income (Expense), Net

Items recorded to "Other income (expense), net" arise from transactions and events not directly related to our principal income earning activities. Other income (expense), net of $8.6 decreased 61%, or $13.5, primarily due to lower income from transition services agreements and an unfavorable foreign exchange impact.

Table of Contents

Interest Expense

	Three Months Ended 31 December	
	2018	2017
Interest incurred	$40.0	$32.6
Less: capitalized interest	2.7	2.8
Interest expense	$37.3	$29.8

Interest incurred increased 23%, or $7.4, primarily due to project financing associated with the Lu'An joint venture.

Other Non-Operating Income (Expense), Net

Other non-operating income (expense), net of $18.5 increased 89%, or $8.7, primarily due to higher interest income on cash and cash items and short-term investments and non-service pension benefits.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income from continuing operations before taxes. The effective tax rate was 27.0% and 64.2% in the first quarter of fiscal years 2019 and 2018, respectively. In December 2017, the U.S. Tax Cuts and Jobs Act ("the Tax Act") was enacted, which significantly changed existing U.S. tax laws, including a reduction in the federal corporate income tax rate from 35% to 21%, a deemed repatriation tax on unremitted foreign earnings, as well as other changes. The change in effective tax rate primarily resulted from the discrete tax impacts related to the Tax Act. During the first quarter of fiscal year 2019, we recorded a discrete net tax expense of $40.6 to finalize our estimates of the impacts of the Tax Act. The net expense includes the reversal of the $56.2 benefit recorded in the fourth quarter of fiscal year 2018 related to the U.S. taxation of deemed foreign dividends. We recorded this reversal based on our intent to follow proposed regulations that were issued during the first quarter of 2019. Additionally, we recorded a benefit of $15.6 to finalize our estimates of the impacts of the Tax Act and reduce the total expected costs of the deemed repatriation tax. Our income tax provision for the first quarter of fiscal year 2018 reflects a discrete net income tax expense of $206.5 for our initial provisional estimates of the impacts of the Tax Act.

On a non-GAAP basis, the adjusted effective tax rate increased from 17.5% in fiscal year 2018 to 19.0% in fiscal year 2019, primarily due to lower excess tax benefits on share-based compensation, partially offset by higher benefits from foreign tax law changes enacted during the first quarter. Other than the discrete net tax impacts discussed above, other provisions of the Tax Act did not significantly change our non-GAAP effective tax rate for the three months ended 31 December 2018 as compared to the prior year.

Refer to Note 14, Income Taxes, to the consolidated financial statements for additional information.

Segment Analysis

Industrial Gases – Americas

	Three Months Ended 31 December			
	2018	2017	$ Change	% Change
Sales	$989.2	$909.8	$79.4	9%
Operating income	219.2	217.2	2.0	1%
Operating margin	22.2 %	23.9 %		(170) bp
Equity affiliates' income	22.6	18.6	4.0	22%
Adjusted EBITDA	367.4	353.6	13.8	4%
Adjusted EBITDA margin	37.1 %	38.9 %		(180) bp

Table of Contents

Sales	% Change from Prior Year
Underlying business	
Volume	2 %
Price	2 %
Energy and natural gas cost pass-through	7 %
Currency	(2)%
Total Industrial Gases – Americas Sales Change	**9 %**

Sales of $989.2 increased 9%, or $79.4. Underlying sales were up 4% from higher volumes of 2% and higher pricing of 2% driven by our merchant business. The volume increase was primarily attributable to new plant onstreams and North America base merchant business growth. Higher energy and natural gas cost pass-through to customers increased sales by 7%, and unfavorable currency impacts decreased sales by 2% versus the prior year.

Operating income of $219.2 increased 1%, or $2.0, as favorable volumes of $18 and higher price, net of power and fuel costs, of $5 were mostly offset by higher costs of $19 and unfavorable currency impacts of $2. The higher costs were primarily driven by higher planned maintenance and transportation costs. Operating margin of 22.2% decreased 170 bp, primarily due to unfavorable cost performance and higher energy and natural gas cost pass-through to customers, partially offset by higher volumes.

Equity affiliates' income of $22.6 increased 22%, or $4.0, primarily due to new plant contributions and volume growth in Mexico.

Industrial Gases – Europe, Middle East, and Africa (EMEA)

	Three Months Ended 31 December			
	2018	2017	$ Change	% Change
Sales	$524.2	$515.9	$8.3	2%
Operating income	105.6	104.5	1.1	1%
Operating margin	20.1 %	20.3 %		(20) bp
Equity affiliates' income	13.7	13.1	.6	5%
Adjusted EBITDA	165.6	166.7	(1.1)	(1)%
Adjusted EBITDA margin	31.6 %	32.3 %		(70) bp

Sales	% Change from Prior Year
Underlying business	
Volume	1 %
Price	2 %
Energy and natural gas cost pass-through	6 %
Currency	(4)%
Other	(3)%
Total Industrial Gases – EMEA Sales Change	**2 %**

Sales of $524.2 increased 2%, or $8.3. Underlying sales were up 3% from higher pricing of 2% and higher volumes of 1%, primarily driven by our merchant business. Energy and natural gas cost pass-through to customers increased sales by 6%, primarily due to an increase in natural gas prices. Unfavorable currency impacts, primarily from the Euro and Indian Rupee, decreased sales by 4%, and the modification of an existing hydrogen supply contract to a tolling

arrangement in India, reflected in the table above as "other," decreased sales by 3%.
Operating income of $105.6 increased 1%, or $1.1, as higher pricing, net of power and fuel costs, of $5 and higher volumes of $4 were mostly offset by unfavorable currency impacts of $4 and higher costs of $4. Operating margin of 20.1% decreased 20 bp as higher net operating costs and energy and natural gas cost pass-through to customers were mostly offset by favorable volumes and pricing.

Table of Contents

Equity affiliates' income of $13.7 increased 5%, or $.6.

Industrial Gases – Asia

	Three Months Ended 31 December			
	2018	2017	$ Change	% Change
Sales	$626.8	$643.6	($16.8)	(3)%
Operating income	201.8	175.5	26.3	15%
Operating margin	32.2 %	27.3 %		490 bp
Equity affiliates' income	16.2	14.2	2.0	14%
Adjusted EBITDA	297.9	246.5	51.4	21%
Adjusted EBITDA margin	47.5 %	38.3 %		920 bp

Sales	% Change from Prior Year
Underlying business	
Volume	(2)%
Price	1 %
Energy and natural gas cost pass-through	1 %
Currency	(3)%
Total Industrial Gases – Asia Sales Change	**(3)%**

Sales of $626.8 decreased 3%, or $16.8. Underlying sales were down 1% as lower volumes of 2% were partially offset by higher pricing of 1%. Excluding the impact from short-term sale of equipment activity in the prior year, volumes were up 17% driven by new plant onstreams, primarily the Lu'An project, of 10%, and base business and small acquisition growth of 7%. Pricing improved across Asia, primarily driven by our merchant business. Unfavorable currency impacts, primarily from the Chinese Renminbi, decreased sales by 3%, and higher energy and natural gas cost pass-through to customers increased sales by 1%.

Operating income of $201.8 increased 15%, or $26.3, due to higher volumes of $18, lower operating costs of $9, and favorable price, net of power costs, of $4, partially offset by unfavorable currency impacts of $5. Operating margin of 32.2% increased 490 bp primarily due to the prior year plant sale that had lower margins and favorable cost performance in the current year.

Equity affiliates' income of $16.2 increased 14%, or $2.0, primarily due to higher volumes.

Industrial Gases – Global

The Industrial Gases – Global segment includes sales of cryogenic and gas processing equipment for air separation and centralized global costs associated with management of all the Industrial Gases segments.

	Three Months Ended 31 December			
	2018	2017	$ Change	% Change
Sales	$68.2	$133.0	($64.8)	(49)%
Operating income	3.9	9.5	(5.6)	(59)%
Adjusted EBITDA	6.4	11.5	(5.1)	(44)%

Sales of $68.2 decreased 49%, or $64.8. The decrease in sales was primarily driven by lower sale of equipment activity on the multiple air separation units that will serve Saudi Aramco's Jazan oil refinery and power plant in Saudi Arabia. We expect to complete this project in 2019.

Operating income of $3.9 decreased 59%, or $5.6, primarily due to the lower sale of equipment activity.

Table of Contents

Corporate and other

The Corporate and other segment includes our liquefied natural gas (LNG) and helium storage and distribution sale of equipment businesses and corporate support functions that benefit all segments. The results of the Corporate and other segment also include income and expense that is not directly associated with the other segments, such as foreign exchange gains and losses.

	Three Months Ended 31 December			
	2018	2017	$ Change	% Change
Sales	$15.6	$14.3	$1.3	9%
Operating loss	(46.5)	(46.0)	(.5)	(1)%
Adjusted EBITDA	(42.4)	(43.4)	1.0	2%

Sales of $15.6 increased 9%, or $1.3. Operating loss of $46.5 increased 1%, or $.5.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

(Millions of dollars unless otherwise indicated, except for per share data)

The Company has presented certain financial measures on a non-GAAP (“adjusted”) basis and has provided a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP. These financial measures are not meant to be considered in isolation or as a substitute for the most directly comparable financial measure calculated in accordance with GAAP. The Company believes these non-GAAP measures provide investors, potential investors, securities analysts, and others with useful information to evaluate the performance of the business because such measures, when viewed together with our financial results computed in accordance with GAAP, provide a more complete understanding of the factors and trends affecting our historical financial performance and projected future results.

In many cases, our non-GAAP measures are determined by adjusting the most directly comparable GAAP financial measure to exclude certain disclosed items (“non-GAAP adjustments”) that we believe are not representative of the underlying business performance. For example, in fiscal years 2017 and 2016, we restructured the Company to focus on its core Industrial Gases business. This resulted in significant cost reduction and asset actions that we believe were important for readers to understand separately from the performance of the underlying business. Additionally, we have recorded discrete impacts associated with the Tax Act since its enactment in December 2017. The reader should be aware that we may incur similar expenses in the future. Readers should also consider the limitations associated with these non-GAAP measures, including the potential lack of comparability of these measures from one company to another.

The tax impact on our pre-tax non-GAAP adjustments reflects the expected current and deferred income tax expense impact of the transactions and is impacted primarily by the statutory tax rate of the various relevant jurisdictions and the taxability of the adjustments in those jurisdictions.

Table of Contents

Reconciliations of reported GAAP results to our non-GAAP measures for the first quarter of fiscal years 2019 and 2018 are presented below:

CONSOLIDATED RESULTS

	Continuing Operations Three Months Ended 31 December					
Q1 2019 vs. Q1 2018	**Operating Income**	**Operating Margin(A)**	**Equity Affiliates' Income**	**Income Tax Provision**	**Net Income**	**Diluted EPS**
2019 GAAP	$455.0	20.5 %	$52.9	$132.1	$347.5	$1.57
2018 GAAP	460.7	20.8 %	13.8	291.8	155.6	.70
Change GAAP	($5.7)	(30)bp	$39.1	($159.7)	$191.9	$.87
% Change GAAP	(1)%		283 %	(55)%	123 %	124 %
2019 GAAP	$455.0	20.5 %	$52.9	$132.1	$347.5	$1.57
Facility closure	29.0	1.3 %	—	6.9	22.1	.10
Tax reform repatriation	—	— %	—	15.6	(15.6)	(.07)
Tax reform adjustment related to deemed foreign dividends	—	— %	—	(56.2)	56.2	.26
2019 Non-GAAP Measure	$484.0	21.8 %	$52.9	$98.4	$410.2	$1.86
2018 GAAP	$460.7	20.8 %	$13.8	$291.8	$155.6	$.70
Tax reform repatriation	—	— %	32.5	(420.5)	453.0	2.06
Tax reform rate change and other	—	— %	—	214.0	(214.0)	(.97)
2018 Non-GAAP Measure	$460.7	20.8 %	$46.3	$85.3	$394.6	$1.79
Change Non-GAAP Measure	$23.3	100 bp	$6.6	$13.1	$15.6	$.07
% Change Non-GAAP Measure	5 %		14 %	15 %	4 %	4 %

(A) Operating margin is calculated by dividing operating income by sales.

Below is a reconciliation of consolidated operating income to segment total operating income:

	Three Months Ended 31 December	
Operating Income	2018	2017
Consolidated total	$455.0	$460.7
Facility closure	29.0	—
Segment total	$484.0	$460.7

Below is a reconciliation of consolidated equity affiliates' income to segment total equity affiliates' income:

	Three Months Ended 31 December	
Equity Affiliates' Income	2018	2017
Consolidated total	$52.9	$13.8
Tax reform repatriation - equity method investment	—	32.5
Segment total	$52.9	$46.3

Table of Contents

ADJUSTED EBITDA

We define Adjusted EBITDA as income from continuing operations (including noncontrolling interests) excluding certain disclosed items, which the Company does not believe to be indicative of underlying business trends, before interest expense, other non operating income (expense), net, income tax provision, and depreciation and amortization expense. Adjusted EBITDA provides a useful metric for management to assess operating performance.

Below is a reconciliation of income from continuing operations on a GAAP basis to adjusted EBITDA:

	Three Months Ended 31 December	
	2018	2017
Income from Continuing Operations[A]	$357.0	$162.7
Add: Facility closure	29.0	—
Add: Interest expense	37.3	29.8
Less: Other non-operating income (expense), net	18.5	9.8
Add: Income tax provision	132.1	291.8
Add: Depreciation and amortization	258.0	227.9
Add: Tax reform repatriation - equity method investment	—	32.5
Adjusted EBITDA	$794.9	$734.9
Adjusted EBITDA margin	35.7 %	33.2 %
Change GAAP		
Income from continuing operations change	$194.3	
Income from continuing operations % change	119 %	
Change Non-GAAP		
Adjusted EBITDA change	$60.0	
Adjusted EBITDA % change	8 %	
Adjusted EBITDA margin change	250 bp	

[A] Includes net income attributable to noncontrolling interests.

Table of Contents

Below is a reconciliation of segment operating income to adjusted EBITDA:

	Industrial Gases– Americas	Industrial Gases– EMEA	Industrial Gases– Asia	Industrial Gases– Global	Corporate and other	Segment Total
GAAP MEASURE						
Three Months Ended 31 December 2018						
Operating income (loss)	$219.2	$105.6	$201.8	$3.9	($46.5)	$484.0
Operating margin	22.2 %	20.1 %	32.2 %			21.8 %
Three Months Ended 31 December 2017						
Operating income (loss)	$217.2	$104.5	$175.5	$9.5	($46.0)	$460.7
Operating margin	23.9 %	20.3 %	27.3 %			20.8 %
Operating income (loss) change	$2.0	$1.1	$26.3	($5.6)	($.5)	$23.3
Operating income (loss) % change	1 %	1 %	15 %	(59)%	(1)%	5 %
Operating margin change	(170) bp	(20) bp	490 bp			100 bp
NON-GAAP MEASURE						
Three Months Ended 31 December 2018						
Operating income (loss)	$219.2	$105.6	$201.8	$3.9	($46.5)	$484.0
Add: Depreciation and amortization	125.6	46.3	79.9	2.1	4.1	258.0
Add: Equity affiliates' income	22.6	13.7	16.2	.4	—	52.9
Adjusted EBITDA	$367.4	$165.6	$297.9	$6.4	($42.4)	$794.9
Adjusted EBITDA margin	37.1 %	31.6 %	47.5 %			35.7 %
Three Months Ended 31 December 2017						
Operating income (loss)	$217.2	$104.5	$175.5	$9.5	($46.0)	$460.7
Add: Depreciation and amortization	117.8	49.1	56.8	1.6	2.6	227.9
Add: Equity affiliates' income	18.6	13.1	14.2	.4	—	46.3
Adjusted EBITDA	$353.6	$166.7	$246.5	$11.5	($43.4)	$734.9
Adjusted EBITDA margin	38.9 %	32.3 %	38.3 %			33.2 %
Adjusted EBITDA change	$13.8	($1.1)	$51.4	($5.1)	$1.0	$60.0
Adjusted EBITDA % change	4 %	(1)%	21 %	(44)%	2 %	8 %
Adjusted EBITDA margin change	(180) bp	(70) bp	920 bp			250 bp

Table of Contents

INCOME TAXES

The tax impact of our pre-tax non-GAAP adjustments reflects the expected current and deferred income tax expense associated with each adjustment and is primarily dependent upon the statutory tax rate of the various relevant jurisdictions and the taxability of the adjustments in those jurisdictions. For additional discussion on the impacts of our non-GAAP tax adjustments, including those resulting from the U.S. Tax Cuts and Jobs Act, refer to Note 14, Income Taxes, to the consolidated financial statements.

	Effective Tax Rate Three Months Ended 31 December	
	2018	2017
Income Tax Provision—GAAP	**$132.1**	**$291.8**
Income From Continuing Operations Before Taxes—GAAP	**$489.1**	**$454.5**
Effective Tax Rate—GAAP	**27.0 %**	**64.2 %**
Income Tax Provision—GAAP	$132.1	$291.8
Facility closure	6.9	—
Tax reform repatriation	15.6	(420.5)
Tax reform adjustment related to deemed foreign dividends	(56.2)	—
Tax reform rate change and other	—	214.0
Income Tax Provision—Non-GAAP Measure	**$98.4**	**$85.3**
Income From Continuing Operations Before Taxes—GAAP	$489.1	$454.5
Facility closure	29.0	—
Tax reform repatriation - equity method investment	—	32.5
Income From Continuing Operations Before Taxes—Non-GAAP Measure	**$518.1**	**$487.0**
Effective Tax Rate—Non-GAAP Measure	**19.0 %**	**17.5 %**

LIQUIDITY AND CAPITAL RESOURCES

We have consistent access to commercial paper markets, and our cash balance and cash flows from operations and financing activities are expected to meet liquidity needs for the foreseeable future.

As of 31 December 2018, we had $980.1 of foreign cash and cash items compared to total cash and cash items of $2,923.3. As a result of the Tax Act, we currently do not expect that a significant portion of the earnings of our foreign subsidiaries and affiliates will be subject to U.S. income tax upon subsequent repatriation to the United States. Depending on the country in which the subsidiaries and affiliates reside, the repatriation of these earnings may be subject to foreign withholding and other taxes. However, since we have significant current investment plans outside the U.S., it is our intent to permanently reinvest the majority of our foreign cash and cash items that would be subject to additional taxes outside the U.S.

Our cash flows from operating, investing, and financing activities from continuing operations, as reflected in the consolidated statements of cash flows, are summarized in the following table:

	Three Months Ended 31 December	
Cash provided by (used for)	2018	2017
Operating activities	**$655.2**	$560.0
Investing activities	**(226.5)**	(480.8)
Financing activities	**(289.8)**	(641.1)

Table of Contents

Operating Activities

For the first three months of fiscal year 2019, cash provided by operating activities was $655.2. Income from continuing operations of $347.5 was adjusted for items including depreciation and amortization, deferred income taxes, impacts from the Tax Act, undistributed losses of unconsolidated affiliates, share-based compensation, and noncurrent capital lease receivables. The final adjustments to our estimates of the impacts of the Tax Act is included within "Tax reform repatriation" and "Deferred income taxes." See Note 14, Income Taxes, to the consolidated financial statements for additional information. The working capital accounts were a use of cash of $71.6, primarily driven by $73.6 from trade receivables.

For the first three months of fiscal year 2018, cash provided by operating activities was $560.0. The tax reform repatriation adjustment of $310.3 represents an obligation for the deemed repatriation tax resulting from U.S. tax reform and is payable over a period of eight years. Undistributed earnings of unconsolidated affiliates includes $32.5 of expense resulting from the U.S. Tax Cuts and Jobs Act. See Note 14, Income Taxes, to the consolidated financial statements for additional information. The working capital accounts were a use of cash of $126.8, primarily driven by $113.5 from payables and accrued liabilities and $34.2 from trade receivables. The use of cash in payables and accrued liabilities included a $39.3 decrease in accrued incentive compensation due to payments on the 2017 plan and $13.5 of severance actions.

Cash paid for income taxes, net of cash refunds, was $28.7 and $61.0 for the three months ended 31 December 2018 and 2017, respectively.

Investing Activities

For the first three months of fiscal year 2019, cash used for investing activities was $226.5. Capital expenditures for plant and equipment were $403.4. Proceeds from investments of $178.0 resulted from maturities of time deposits with original terms greater than three months but less than one year.

For the first three months of fiscal year 2018, cash used for investing activities was $480.8. Capital expenditures for plant and equipment were $256.6. We completed three acquisitions with an aggregate purchase price, net of cash acquired, of $237.1. See Note 4, Acquisitions, to the consolidated financial statements for further details.

We define capital expenditures as cash flows for additions to plant and equipment, acquisitions (less cash acquired), and investment in and advances to unconsolidated affiliates. The components of our capital expenditures are detailed in the table below:

	Three Months Ended 31 December	
	2018	2017
Additions to plant and equipment	$403.4	$256.6
Acquisitions, less cash acquired	—	237.1
Capital expenditures	$403.4	$493.7

We expect capital expenditures of approximately $2,300 to $2,500 in fiscal year 2019. This range includes our investment in our joint venture, Air Products Lu’an (Changzhi) Co., Ltd., with Lu’An Clean Energy Company, which closed on 26 April 2018.

Sales backlog represents our estimate of revenue to be recognized in the future on sale of equipment orders and related process technologies that are under firm contracts. The sales backlog for the Company at 31 December 2018 was $501, compared to $204 at 30 September 2018.

Financing Activities

For the first three months of fiscal year 2019, cash used for financing activities was $289.8. This consisted primarily of dividend payments to shareholders of $241.5 and repayment on short term borrowings of $38.0.

For the first three months of fiscal year 2018, cash used for financing activities was $641.1. This consisted primarily of repayment on long-term debt of $408.6, dividend payments to shareholders of $207.5, and repayments of commercial paper and short-term borrowings of $40.7. Payments on long-term debt primarily related to the repayment of a 1.2% U.S. Senior Note of $400.0 that matured on 16 October 2017.

40

Table of Contents

Financing and Capital Structure

Capital needs were satisfied primarily with cash from operations. Total debt as of 31 December 2018 and 30 September 2018, expressed as a percentage of total capitalization (total debt plus total equity), was 25.2% and 25.4%, respectively. Total debt decreased from $3,812.6 at 30 September 2018 to $3,767.9 at 31 December 2018, primarily due to the repayment of short-term borrowings. The current year total debt balance includes $383.8 of related party debt associated with the Lu'An joint venture.

We have a $2,300.0 revolving credit agreement with a syndicate of banks ("the Credit Agreement") maturing 31 March 2022. Under the Credit Agreement, senior unsecured debt is available to both the Company and certain of its subsidiaries. The Credit Agreement provides a source of liquidity for the Company and supports its commercial paper program. The Company's only financial covenant is a maximum ratio of total debt to total capitalization no greater than 70%. No borrowings were outstanding under the Credit Agreement as of 31 December 2018 or 30 September 2018.

Commitments totaling $4.7 are maintained by our foreign subsidiaries, all of which was borrowed and outstanding as of 31 December 2018.

As of 31 December 2018, we were in compliance with all of the financial and other covenants under our debt agreements.

On 15 September 2011, the Board of Directors authorized the repurchase of up to $1,000 of our outstanding common stock. During the first three months of fiscal year 2019, we did not purchase any of our outstanding shares. At 31 December 2018, $485.3 in share repurchase authorization remained.

Dividends

On 24 January 2019, the Board of Directors declared the second quarter dividend of $1.16 per share. The dividend is payable on 13 May 2019 to shareholders of record at the close of business on 1 April 2019.

CONTRACTUAL OBLIGATIONS

We are obligated to make future payments under various contracts, such as debt agreements, lease agreements, unconditional purchase obligations, and other long-term obligations. There have been no material changes to our contractual obligations since 30 September 2018.

PENSION BENEFITS

For the three months ended 31 December 2018 and 2017, net periodic pension cost was $6.9 and $12.4, respectively. We recognized service-related costs of $10.6 and $13.2, respectively, on our consolidated income statements within operating income. The non-service benefits of $3.7 and $.8 were included in "Other non-operating income (expense), net" for the three months ended 31 December 2018 and 2017, respectively. The decrease in pension expense in fiscal year 2019 results from lower loss amortization primarily due to favorable asset experience and the impact of higher discount rates, partially offset by lower expected return on assets. The amount of service costs capitalized in fiscal year 2019 and 2018 were not material.

For the three months ended 31 December 2018 and 2017, we recognized a pension settlement loss of $1.0 and $1.8, respectively, in "Other non-operating income (expense), net" on our consolidated income statements to accelerate recognition of a portion of actuarial gains and losses deferred in accumulated other comprehensive loss. We expect total pension settlement losses of approximately $10 in fiscal year 2019.

Management considers various factors when making pension funding decisions, including tax, cash flow, and regulatory implications. For the three months ended 31 December 2018 and 2017, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were $19.5 and $27.4, respectively. Total contributions for fiscal 2019 are expected to be approximately $45 to $65. During fiscal 2018, total contributions were $68.3.

Refer to Note 9, Retirement Benefits, to the consolidated financial statements for details on pension cost and cash contributions.

COMMITMENTS AND CONTINGENCIES

Refer to Note 10, Commitments and Contingencies, to the consolidated financial statements for information concerning our commitments and contingencies, including litigation and environmental matters.

OFF-BALANCE SHEET ARRANGEMENTS

There have been no material changes to off-balance sheet arrangements since 30 September 2018. We are not a primary beneficiary in any material variable interest entity. Our off-balance sheet arrangements are not reasonably likely to have a material impact on financial condition, changes in financial condition, results of operations, or liquidity.

Table of Contents

RELATED PARTY TRANSACTIONS

We have related party sales to some of our equity affiliates and joint venture partners. Sales to related parties totaled approximately $85 and $105 for the three months ended 31 December 2018 and 2017, respectively. Agreements with related parties include terms that are consistent with those that we believe would have been negotiated at an arm's length with an independent party.

During fiscal year 2018, we completed the formation of Air Products Lu An (Changzhi) Co., Ltd. ("the JV"), a 60%-owned joint venture with Lu'An Clean Energy Company ("Lu'An"), and the JV acquired gasification and syngas clean-up assets from Lu'An. In connection with the acquisition, Lu'An made a loan to the JV of 2.6 billion RMB and we established a liability of 2.3 billion RMB for cash payments expected to be made to or on behalf of Lu'An in 2019. Long-term debt payable to Lu'An of approximately $360 and $384 as of 31 December 2018 and 30 September 2018, respectively, is presented on the consolidated balance sheets as "Long-term debt – related party." As of 31 December 2018, approximately $24 of the loan is reflected within "Current portion of long-term debt." The expected remaining cash payments are presented within "Payables and accrued liabilities" and were 1.9 billion RMB (approximately $283) as of 31 December 2018. As of 30 September 2018, this liability was 2.2 billion RMB (approximately $330).

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Management's Discussion and Analysis of our financial condition and results of operations is based on the consolidated financial statements and accompanying notes that have been prepared in accordance with GAAP. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Judgments and estimates of uncertainties are required in applying our accounting policies in many areas. However, application of policies that management has identified as critical places significant importance on management's judgment, often as the result of the need to make estimates of matters that are inherently uncertain. If actual results were to differ materially from these estimates, the reported results could be materially affected. A description of our major accounting policies, including those identified as critical, is included in our 2018 Form 10-K.

There have been no changes to our accounting policies or estimates during the first three months of fiscal year 2019 that had a significant impact on our financial condition, change in financial condition, liquidity, or results of operations.

NEW ACCOUNTING GUIDANCE

See Note 2, New Accounting Guidance, and Note 3, Revenue Recognition, to the consolidated financial statements for information concerning the implementation and impact of new accounting guidance.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Information on our utilization of financial instruments and an analysis of the sensitivity of these instruments to selected changes in market rates and prices is included in our 2018 Form 10-K.

Our net financial instrument position decreased from a liability of $3,736.2 at 30 September 2018 to a liability of $3,704.7 at 31 December 2018.

Interest Rate Risk

There were no material changes to the sensitivity analysis related to the fixed portion of our debt portfolio since 30 September 2018.

There were no material changes to the sensitivity analysis related to the variable portion of our debt portfolio since 30 September 2018.

Foreign Currency Exchange Rate Risk

The sensitivity analysis related to foreign currency exchange rates assumes an instantaneous 10% change in the foreign currency exchange rates from their levels at 31 December 2018, with all other variables held constant. A 10% strengthening or weakening of the functional currency of an entity versus all other currencies would result in a decrease or increase, respectively, of $304 and $329 in the net liability position of financial instruments at 31 December 2018 and 30 September 2018, respectively.

42

Table of Contents

Item 4. Controls and Procedures

Disclosure Controls and Procedures

We maintain a comprehensive set of disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Under the supervision of the Chief Executive Officer and Chief Financial Officer, the Company's management conducted an evaluation of the effectiveness of the Company's disclosure controls and procedures as of 31 December 2018. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of 31 December 2018, the disclosure controls and procedures were effective.

Internal Control Over Financial Reporting

There was no change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended 31 December 2018 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Table of Contents

PART II. OTHER INFORMATION

Item 5. Other Information

Not applicable.

Item 6. Exhibits.

(a) Exhibits required by Item 601 of Regulation S-K

Exhibit No.	Description
10.1	Form of Restricted Stock Unit Award Agreement under the Long-Term Incentive Plan of the Company, used for FY2019 awards.
10.2	Form of Performance Share Award Agreement under the Long-Term Incentive Plan of the Company, used for FY2019 awards.
10.3	Restricted Stock Unit Retention Award Agreement, dated 3 December 2018, under the Long-Term Incentive Plan of the Company.
10.4	Amendment No. 2 to the Air Products and Chemicals, Inc. Retirement Savings Plan as amended and restated effective 1 January 2019.
10.5	Amendment No. 3 to the Air Products and Chemicals, Inc. Retirement Savings Plan as amended and restated effective 1 January 2019.
31.1	Certification by the Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by the Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
101.INS	XBRL Instance Document. The XBRL Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase

† The certification attached as Exhibit 32 that accompanies this Quarterly Report on Form 10-Q, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Air Products and Chemicals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

Table of Contents

SIGNATURE

Pursuant to the requirements 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.

Air Products and Chemicals, Inc.
(Registrant)

Date: 25 January 2019 By: /s/ M. Scott Crocco
M. Scott Crocco
Executive Vice President and Chief Financial Officer