

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-Q**

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

For the quarterly period ended 31 December 2022

or

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

For the transition period from _____ to _____

Commission File Number 001-04534



AIR PRODUCTS AND CHEMICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

23-1274455

(I.R.S. Employer Identification No.)

**1940 Air Products Boulevard
Allentown, Pennsylvania 18106-5500**

(Address of principal executive offices and 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)

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$1.00 per share	APD	New York Stock Exchange
1.000% Euro Notes due 2025	APD25	New York Stock Exchange
0.500% Euro Notes due 2028	APD28	New York Stock Exchange
0.800% Euro Notes due 2032	APD32	New York Stock Exchange

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 No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 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

The number of shares of common stock, par value \$1 per share, outstanding at 31 December 2022 was 222,082,851.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
QUARTERLY REPORT ON FORM 10-Q
For the quarterly period ended 31 December 2022

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q 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,” “future,” “goal,” “intend,” “may,” “outlook,” “plan,” “positioned,” “possible,” “potential,” “project,” “should,” “target,” “will,” “would,” and 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:

- the duration and impacts of the ongoing COVID-19 global pandemic and efforts to contain its transmission, including the effect of these factors on our business, our customers, economic conditions and markets generally;
- changes in global or regional economic conditions, inflation, and supply and demand dynamics in the market segments we serve, including demand for technologies and projects to limit the impact of global climate change;
- changes in the financial markets that may affect the availability and terms on which we may obtain financing;
- the ability to implement price increases to offset cost increases;
- disruptions to our supply chain and related distribution delays and cost increases;
- 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;
- our ability to safely develop, operate, and manage costs of large scale and technically complex projects;
- the future financial and operating performance of major customers, joint ventures, and equity affiliates;
- our ability to develop, implement, and operate new technologies and to market products produced utilizing new technologies;
- our ability to execute the projects in our backlog and refresh our pipeline of new projects;
- tariffs, economic sanctions and regulatory activities in jurisdictions in which we and our affiliates and joint ventures operate;
- the impact of environmental, tax, safety, or other legislation, as well as regulations and other public policy initiatives affecting our business and the business of our affiliates and related compliance requirements, including legislation, regulations, or policies intended to address global climate change;
- changes in tax rates and other changes in tax law;
- safety incidents relating to our operations;
- the timing, impact, and other uncertainties relating to acquisitions and divestitures, including our ability to integrate acquisitions and separate divested businesses, respectively;

FORWARD-LOOKING STATEMENTS (CONTINUED)

- risks relating to cybersecurity incidents, including risks from the interruption, failure or compromise of our information systems;
- catastrophic events, such as natural disasters and extreme weather events, public health crises, acts of war, including Russia's invasion of Ukraine and the ongoing civil war in Yemen, or terrorism;
- the impact on our business and customers of price fluctuations in oil and natural gas and disruptions in markets and the economy due to oil and natural gas price volatility;
- costs and outcomes of legal or regulatory proceedings and investigations;
- asset impairments due to economic conditions or specific events;
- significant fluctuations in inflation, 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 electric power, natural gas, and other 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 fiscal year ended 30 September 2022. 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.

PART I—FINANCIAL INFORMATION**Item 1. Financial Statements**

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

	Three Months Ended 31 December	
<i>(Millions of U.S. Dollars, except for share and per share data)</i>	2022	2021
Sales	\$3,174.7	\$2,994.2
Cost of sales	2,272.3	2,223.6
Selling and administrative expense	234.4	232.8
Research and development expense	24.4	23.3
Other income (expense), net	8.4	8.5
Operating Income	652.0	523.0
Equity affiliates' income	110.0	147.8
Interest expense	41.2	30.5
Other non-operating income (expense), net	(0.6)	22.6
Income Before Taxes	720.2	662.9
Income tax provision	136.4	113.3
Net Income	583.8	549.6
Net income (loss) attributable to noncontrolling interests	11.6	(10.8)
Net Income Attributable to Air Products	\$572.2	\$560.4
Per Share Data <i>(U.S. Dollars per share)</i>		
Basic earnings per share attributable to Air Products	\$2.58	\$2.53
Diluted earnings per share attributable to Air Products	\$2.57	\$2.52
Weighted Average Common Shares <i>(in millions)</i>		
Basic	222.2	221.9
Diluted	222.6	222.6

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

<i>(Millions of U.S. Dollars)</i>	Three Months Ended 31 December	
	2022	2021
Net Income	\$583.8	\$549.6
Other Comprehensive Income, net of tax:		
Translation adjustments, net of tax of (\$38.0) and \$7.6	509.6	40.6
Net gain (loss) on derivatives, net of tax of \$38.2 and (\$11.1)	121.0	(0.5)
Pension and postretirement benefits, net of tax of \$2.4 and \$—	6.7	—
Reclassification adjustments:		
Derivatives, net of tax of (\$21.7) and \$6.1	(68.7)	18.7
Pension and postretirement benefits, net of tax of \$3.7 and \$5.4	11.9	16.0
Total Other Comprehensive Income	580.5	74.8
Comprehensive Income	1,164.3	624.4
Net Income (Loss) Attributable to Noncontrolling Interests	11.6	(10.8)
Other Comprehensive Income Attributable to Noncontrolling Interests	12.7	11.2
Comprehensive Income Attributable to Air Products	\$1,140.0	\$624.0

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED BALANCE SHEETS
(Unaudited)

<i>(Millions of U.S. Dollars, except for share and per share data)</i>	31 December 2022	30 September 2022
Assets		
Current Assets		
Cash and cash items	\$3,131.0	\$2,711.0
Short-term investments	19.6	590.7
Trade receivables, net	1,827.2	1,794.4
Inventories	635.3	514.2
Prepaid expenses	165.1	156.8
Other receivables and current assets	542.9	515.8
Total Current Assets	6,321.1	6,282.9
Investment in net assets of and advances to equity affiliates	3,391.5	3,353.8
Plant and equipment, at cost	29,772.3	28,160.1
Less: accumulated depreciation	14,733.1	13,999.6
Plant and equipment, net	15,039.2	14,160.5
Goodwill, net	876.3	823.0
Intangible assets, net	363.1	347.5
Operating lease right-of-use assets, net	754.8	694.8
Noncurrent lease receivables	579.3	583.1
Other noncurrent assets	953.0	947.0
Total Noncurrent Assets	21,957.2	20,909.7
Total Assets	\$28,278.3	\$27,192.6
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	\$2,552.0	\$2,771.6
Accrued income taxes	159.9	135.2
Short-term borrowings	2.2	10.7
Current portion of long-term debt	562.8	548.3
Total Current Liabilities	3,276.9	3,465.8
Long-term debt	6,834.4	6,433.8
Long-term debt – related party	658.4	652.0
Noncurrent operating lease liabilities	627.4	592.1
Other noncurrent liabilities	1,117.7	1,099.1
Deferred income taxes	1,246.1	1,247.4
Total Noncurrent Liabilities	10,484.0	10,024.4
Total Liabilities	\$13,760.9	\$13,490.2
Commitments and Contingencies - See Note 11		
Air Products Shareholders' Equity		
Common stock (par value \$1 per share; issued 2023 and 2022 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,148.4	1,141.4
Retained earnings	16,731.4	16,520.3
Accumulated other comprehensive loss	(2,218.3)	(2,786.1)
Treasury stock, at cost (2023 - 27,372,733 shares; 2022 - 27,616,888 shares)	(1,975.2)	(1,981.0)
Total Air Products Shareholders' Equity	13,935.7	13,144.0
Noncontrolling Interests	581.7	558.4
Total Equity	\$14,517.4	\$13,702.4
Total Liabilities and Equity	\$28,278.3	\$27,192.6

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

<i>(Millions of U.S. Dollars)</i>	Three Months Ended 31 December	
	2022	2021
Operating Activities		
Net income	\$583.8	\$549.6
Less: Net income (loss) attributable to noncontrolling interests	11.6	(10.8)
Net income attributable to Air Products	572.2	560.4
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	321.5	332.3
Deferred income taxes	13.8	15.7
Distributed (Undistributed) earnings of equity method investments	17.2	(117.3)
Gain on sale of assets and investments	(2.3)	(0.8)
Share-based compensation	16.1	15.8
Noncurrent lease receivables	19.4	21.8
Other adjustments	99.0	(49.4)
Working capital changes that provided (used) cash, excluding effects of acquisitions:		
Trade receivables	40.4	(132.7)
Inventories	(102.8)	(33.7)
Other receivables	(6.7)	14.0
Payables and accrued liabilities	(257.6)	167.6
Other working capital	(10.9)	(8.5)
Cash Provided by Operating Activities	719.3	785.2
Investing Activities		
Additions to plant and equipment, including long-term deposits	(834.2)	(663.8)
Acquisitions, less cash acquired	—	(34.6)
Investment in and advances to unconsolidated affiliates	—	(1,632.7)
Proceeds from sale of assets and investments	4.0	1.1
Purchases of investments	(19.2)	(727.4)
Proceeds from investments	591.5	1,331.9
Other investing activities	1.7	6.4
Cash Used for Investing Activities	(256.2)	(1,719.1)
Financing Activities		
Long-term debt proceeds	476.3	51.6
Payments on long-term debt	(195.9)	(400.0)
Net (decrease) increase in commercial paper and short-term borrowings	(4.1)	113.1
Dividends paid to shareholders	(359.4)	(332.1)
Proceeds from stock option exercises	14.0	13.3
Other financing activities	(16.5)	(31.0)
Cash Used for Financing Activities	(85.6)	(585.1)
Effect of Exchange Rate Changes on Cash	42.5	3.8
Increase (Decrease) in cash and cash items	420.0	(1,515.2)
Cash and Cash items – Beginning of year	2,711.0	4,468.9
Cash and Cash Items – End of Period	\$3,131.0	\$2,953.7

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)

Three Months Ended 31 December 2022

<i>(Millions of U.S. Dollars, except for per share data)</i>	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 2022	\$249.4	\$1,141.4	\$16,520.3	(\$2,786.1)	(\$1,981.0)	\$13,144.0	\$558.4	\$13,702.4
Net income	—	—	572.2	—	—	572.2	11.6	583.8
Other comprehensive income	—	—	—	567.8	—	567.8	12.7	580.5
Dividends on common stock (per share \$1.62)	—	—	(359.8)	—	—	(359.8)	—	(359.8)
Dividends to noncontrolling interests	—	—	—	—	—	—	(0.8)	(0.8)
Share-based compensation	—	14.2	—	—	—	14.2	—	14.2
Issuance of treasury shares for stock option and award plans	—	(7.4)	—	—	5.8	(1.6)	—	(1.6)
Other equity transactions	—	0.2	(1.3)	—	—	(1.1)	(0.2)	(1.3)
Balance at 31 December 2022	\$249.4	\$1,148.4	\$16,731.4	(\$2,218.3)	(\$1,975.2)	\$13,935.7	\$581.7	\$14,517.4

Three Months Ended 31 December 2021

<i>(Millions of U.S. Dollars, except for per share data)</i>	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 2021	\$249.4	\$1,115.8	\$15,678.3	(\$1,515.9)	(\$1,987.9)	\$13,539.7	\$548.3	\$14,088.0
Net income	—	—	560.4	—	—	560.4	(10.8)	549.6
Other comprehensive income	—	—	—	63.6	—	63.6	11.2	74.8
Dividends on common stock (per share \$1.50)	—	—	(332.6)	—	—	(332.6)	—	(332.6)
Share-based compensation	—	14.1	—	—	—	14.1	—	14.1
Issuance of treasury shares for stock option and award plans	—	(18.1)	—	—	(1.3)	(19.4)	—	(19.4)
Investments by noncontrolling interests	—	—	—	—	—	—	3.6	3.6
Purchase of noncontrolling interests	—	—	—	—	—	—	(1.9)	(1.9)
Other equity transactions	—	0.2	(0.9)	—	—	(0.7)	0.1	(0.6)
Balance at 31 December 2021	\$249.4	\$1,112.0	\$15,905.2	(\$1,452.3)	(\$1,989.2)	\$13,825.1	\$550.5	\$14,375.6

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Millions of U.S. Dollars, unless otherwise indicated

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1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

Basis of Presentation

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 (the "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 fairly present the financial position, results of operations, and cash flows for those periods indicated and contain adequate disclosures to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the notes to the interim consolidated financial statements.

To fully understand the basis of presentation, the interim consolidated financial statements and related notes included herein should be read in conjunction with the consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the fiscal year ended 30 September 2022 (the "[2022 Form 10-K](#)"), which was filed with the SEC on 22 November 2022. Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

Major Accounting Policies

Refer to our 2022 Form 10-K for a description of major accounting policies. There have been no significant changes to these accounting policies during the first three months of fiscal year 2023.

Risks and Uncertainties

We are subject to various risks and uncertainties, including, but not limited to, those resulting from the COVID-19 pandemic, increased inflationary pressures, and Russia's invasion of Ukraine. Our results of operations for the periods covered by this report were not materially impacted by these events; however, there is uncertainty regarding how these events and others may affect our business, results of operations, and overall financial performance in future periods, including our ability to complete suspended projects.

Reclassifications

Beginning in the first quarter of fiscal year 2023, we present "Operating lease right-of-use assets, net" and "Noncurrent operating lease liabilities" in separate captions on our consolidated balance sheets. These balances were previously presented within "Other noncurrent assets" and "Other noncurrent liabilities," respectively. Our balance sheet as of 30 September 2022 has been reclassified to conform to the fiscal year 2023 presentation.

2. NEW ACCOUNTING GUIDANCE

New Accounting Guidance to be Implemented

Government Assistance

In November 2021, the Financial Accounting Standards Board ("FASB") issued disclosure guidance to increase the transparency of transactions an entity has with a government that are accounted for by applying a grant or contribution accounting model. We are evaluating the impact this guidance will have on our annual disclosures to our consolidated financial statements. We will adopt this guidance prospectively in our Annual Report for fiscal year 2023.

Reference Rate Reform

In March 2020, the FASB issued an update to provide practical expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. This update is primarily applicable to our contracts and hedging relationships that reference the London Inter-Bank Offered Rate ("LIBOR"). In December 2022, the FASB extended the date through which the amendments may be applied to impacted contracts and hedges to 31 December 2024. We have had no reference rate reform modifications to date. We will adopt this update on a prospective basis in the event of any such modifications.

3. REVENUE RECOGNITION

The majority of our revenue is generated from our sale of gas customers within the regional industrial gases segments. We distribute gases through either our on-site or merchant supply mode depending on various factors, including the customer's volume requirements and location. We also design and manufacture equipment for air separation, hydrocarbon recovery and purification, natural gas liquefaction, and liquid helium and liquid hydrogen transport and storage. The Corporate and other segment serves our sale of equipment customers.

Disaggregation of Revenue

The table below presents our consolidated sales disaggregated by supply mode for each of our reportable segments for the first quarter of fiscal years 2023 and 2022. We believe this presentation best depicts the nature, timing, type of customer, and contract terms for our sales.

Three Months Ended 31 December 2022							
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	\$845.8	\$457.7	\$328.1	\$18.8	\$—	\$1,650.4	52 %
Merchant	538.4	320.1	463.8	22.6	—	1,344.9	42 %
Sale of Equipment	—	—	—	—	179.4	179.4	6 %
Total	\$1,384.2	\$777.8	\$791.9	\$41.4	\$179.4	\$3,174.7	100 %

Three Months Ended 31 December 2021							
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	\$797.6	\$451.6	\$325.6	\$16.3	\$—	\$1,591.1	53 %
Merchant	426.5	328.8	418.6	7.4	—	1,181.3	40 %
Sale of Equipment	—	—	—	—	221.8	221.8	7 %
Total	\$1,224.1	\$780.4	\$744.2	\$23.7	\$221.8	\$2,994.2	100 %

Remaining Performance Obligations

As of 31 December 2022, the transaction price allocated to remaining performance obligations is estimated to be approximately \$23 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 the next five years and the balance thereafter.

Our remaining performance obligations do not include (1) expected revenue associated with new on-site plants that are not yet on-stream; (2) consideration associated with contracts that have an expected duration of less than one year; and (3) variable consideration for which we recognize revenue at the amount to which we have the right to invoice, including energy cost pass-through to customers.

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 amended, terminated, or renewed contracts.

Contract Balances

The table below details balances arising from contracts with customers:

	Balance Sheet Location	31 December 2022	30 September 2022
Assets			
Contract assets – current	Other receivables and current assets	\$81.9	\$69.0
Contract fulfillment costs – current	Other receivables and current assets	103.5	84.1
Liabilities			
Contract liabilities – current	Payables and accrued liabilities	\$424.6	\$439.1
Contract liabilities – noncurrent	Other noncurrent liabilities	97.4	67.2

Changes to our contract balances primarily relate to our sale of equipment contracts. During the three months ended 31 December 2022, we recognized sales of approximately \$80 associated with sale of equipment contracts that were included within our contract liabilities as of 30 September 2022.

4. INVENTORIES

The components of inventories are as follows:

	31 December 2022	30 September 2022
Finished goods	\$244.7	\$162.0
Work in process	25.1	22.0
Raw materials, supplies, and other	365.5	330.2
Inventories	\$635.3	\$514.2

5. EQUITY AFFILIATES**Equity Affiliate Investment in Jazan Integrated Gasification and Power Company (“JIGPC”)**

On 27 October 2021, we made an initial investment of \$1.6 billion in Jazan Integrated Gasification and Power Company (“JIGPC”). JIGPC is a joint venture with Saudi Aramco Power Company (a subsidiary of Aramco), ACWA Power, and Air Products Qudra in the Jazan Economic City, Saudi Arabia. Our investment represents a 55% interest in the joint venture, of which 4% is attributable to the noncontrolling partner of Air Products Qudra. The \$1.6 billion investment, which includes approximately \$130 from the non-controlling partner, is primarily in the form of shareholder loans that qualify as in-substance common stock in the joint venture.

We determined JIGPC is a variable interest entity for which we are not the primary beneficiary as we do not have the power to direct the activities that are most significant to the economic performance of the joint venture. Instead, these activities, including plant dispatch, operating and maintenance decisions, budgeting, capital expenditures, and financing, require unanimous approval of the owners or are controlled by the customer. Since we have the ability to exercise significant influence in the joint venture, we accounted for our investment in JIGPC under the equity method within the Middle East and India segment.

Certain shareholders receive a preferred cash distribution pursuant to the joint venture agreement, which specifies each shareholder’s share of income after considering the amount of cash available for distribution. As such, the earnings attributable to Air Products may not be proportionate to our ownership interest in the venture.

As of 31 December 2022, the carrying value of our investment totaled \$1,776.5 and is presented as “Investments in net assets of and advances to equity affiliates” on our consolidated balance sheet. Our loss exposure is limited to our investment in the joint venture.

Subsequent Event

On 19 January 2023, we made an additional investment of \$908 toward the second phase of the project as further discussed below. This investment included \$73 received from the noncontrolling partner of Air Products Qudra. We expect to complete a remaining investment of approximately \$115, including approximately \$9 from the non-controlling partner of Air Products Qudra, later this calendar year.

JIGPC Joint Venture

On 27 September 2021, JIGPC signed definitive agreements for the acquisition of project assets from Aramco for \$12 billion and entered into related project financing for the purchase of the project assets, which include power blocks, gasifiers, air separation units, syngas cleanup assets, and utilities, in two phases. The first phase was completed on 27 October 2021 for \$7 billion, and the second phase was completed for \$4.15 billion on 19 January 2023. We expect final commissioning items to be completed later this calendar year. JIGPC will commission, operate, and maintain the project assets to supply electricity, steam, hydrogen, and utilities to Aramco's refinery and terminal complex under a 25-year agreement, which commenced in the first quarter of fiscal year 2022. JIGPC recorded financing receivables upon acquisition of the assets and is recognizing financing income over the supply term.

Jazan Gas Project Company

Jazan Gas Project Company ("JGPC"), a joint venture between Air Products and ACWA Holding, entered into a 20-year oxygen and nitrogen supply agreement in 2015 to supply Aramco's oil refinery and power plant in Jazan, Saudi Arabia.

In October 2021, the supply agreement between JGPC and Aramco was terminated, and JGPC sold its air separation units to Aramco. We initially sold these assets to JGPC and deferred profit proportionate to our ownership in the joint venture. With the termination of the supply agreement and sale of the air separation units complete, we recognized the remaining deferred profit, net of other project finalization costs, in equity affiliates' income in the first quarter of fiscal year 2022.

6. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the three months ended 31 December 2022 are as follows:

	Americas	Asia	Europe	Middle East and India	Corporate and other	Total
Goodwill, net at 30 September 2022	\$143.2	\$172.7	\$457.5	\$15.8	\$33.8	\$823.0
Currency translation and other	5.6	4.2	43.1	—	0.4	53.3
Goodwill, net at 31 December 2022	\$148.8	\$176.9	\$500.6	\$15.8	\$34.2	\$876.3

	31 December 2022	30 September 2022
Goodwill, gross	\$1,188.1	\$1,096.0
Accumulated impairment losses ^(A)	(311.8)	(273.0)
Goodwill, net	\$876.3	\$823.0

^(A)Accumulated impairment losses include the impacts of currency translation. These losses are attributable to our Latin America reporting unit ("LASA") within the Americas segment.

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 and third-party debt. 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 2022 is 3.5 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 our business activity and sourcing decisions.

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

	31 December 2022		30 September 2022	
	US\$ Notional	Years Average Maturity	US\$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	\$4,877.6	0.6	\$4,525.0	0.7
Net investment hedges	616.5	1.9	542.2	2.2
Not designated	408.2	0.2	534.3	0.3
Total Forward Exchange Contracts	\$5,902.3	0.7	\$5,601.5	0.8

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 €1,280.5 million (\$1,370.7) at 31 December 2022 and €1,265.4 million (\$1,240.4) at 30 September 2022. 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, we manage our debt portfolio and hedging program 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 2022, 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 the U.S. Dollar and each of the Chinese Renminbi, Indian Rupee, and Chilean Peso.

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

	31 December 2022				30 September 2022			
	US\$ Notional	Average Pay %	Average Receive %	Years Average Maturity	US\$ Notional	Average Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	\$800.0	Various	1.64 %	4.8	\$800.0	Various	1.64 %	5.0
Cross currency interest rate swaps (net investment hedge)	\$131.0	3.67 %	2.93 %	1.3	\$176.7	4.12 %	3.07 %	1.2
Cross currency interest rate swaps (cash flow hedge)	\$741.9	4.82 %	2.92 %	2.2	\$785.7	4.78 %	3.05 %	2.3
Cross currency interest rate swaps (not designated)	\$39.4	5.39 %	3.54 %	0.9	\$37.7	5.39 %	3.54 %	1.2

The table below provides the amounts recorded on the consolidated balance sheet related to cumulative basis adjustments for fair value hedges:

Balance Sheet Location	Carrying amounts of hedged item		Cumulative hedging adjustment, included in carrying amount	
	31 December 2022	30 September 2022	31 December 2022	30 September 2022
Long-term debt	\$2,017.8	\$2,012.9	(\$72.7)	(\$77.1)

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

	Balance Sheet Location	31 December 2022	30 September 2022	Balance Sheet Location	31 December 2022	30 September 2022
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	\$85.0	\$71.6	Payables and accrued liabilities	\$79.5	\$226.2
Interest rate management contracts	Other receivables and current assets	16.8	36.7	Payables and accrued liabilities	1.5	—
Forward exchange contracts	Other noncurrent assets	26.8	60.8	Other noncurrent liabilities	6.6	46.9
Interest rate management contracts	Other noncurrent assets	8.8	12.5	Other noncurrent liabilities	99.0	91.2
Total Derivatives Designated as Hedging Instruments		\$137.4	\$181.6		\$186.6	\$364.3
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	3.1	6.1	Payables and accrued liabilities	2.2	2.1
Interest rate management contracts	Other receivables and current assets	0.5	—	Payables and accrued liabilities	—	—
Forward exchange contracts	Other noncurrent assets	—	0.1	Other noncurrent liabilities	—	0.1
Interest rate management contracts	Other noncurrent assets	—	1.3	Other noncurrent liabilities	—	—
Total Derivatives Not Designated as Hedging Instruments		\$3.6	\$7.5		\$2.2	\$2.2
Total Derivatives		\$141.0	\$189.1		\$188.8	\$366.5

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.

The tables below summarize gains (losses) recognized in other comprehensive income during the period related to our net investment and cash flow hedging relationships:

	Three Months Ended 31 December	
	2022	2021
Net Investment Hedging Relationships		
Forward exchange contracts	(\$47.1)	\$14.5
Foreign currency debt	(115.3)	27.6
Cross currency interest rate swaps	(10.6)	(2.3)
Total Amount Recognized in OCI	(173.0)	39.8
Tax effects	42.5	(9.8)
Net Amount Recognized in OCI	(\$130.5)	\$30.0

	Three Months Ended 31 December	
	2022	2021
Derivatives in Cash Flow Hedging Relationships		
Forward exchange contracts	\$188.8	(\$23.4)
Forward exchange contracts, excluded components	(5.6)	(2.7)
Other ^(A)	(24.0)	14.5
Total Amount Recognized in OCI	159.2	(11.6)
Tax effects	(38.2)	11.1
Net Amount Recognized in OCI	\$121.0	(\$0.5)

^(A)Other primarily includes interest rate and cross currency interest rate swaps for which excluded components are recognized in "Payables and accrued liabilities" and "Other receivables and current assets" as a component of accrued interest payable and accrued interest receivable, respectively. These excluded components are recorded in "Other non-operating income (expense), net" over the life of the cross currency interest rate swap. Other also includes the recognition of our share of gains and losses, net of tax, related to interest rate swaps held by our equity affiliates.

The table below summarizes the location and amounts recognized in income related to our cash flow and fair value hedging relationships by contract type:

	Three Months Ended 31 December							
	Sales		Cost of Sales		Interest Expense		Other Non-Operating Income (Expense), Net	
	2022	2021	2022	2021	2022	2021	2022	2021
Total presented in consolidated income statements that includes effects of hedging below	\$3,174.7	\$2,994.2	\$2,272.3	\$2,223.6	\$41.2	\$30.5	(\$0.6)	\$22.6
(Gain) Loss Effects of Cash Flow Hedging:								
Forward Exchange Contracts:								
Amount reclassified from OCI into income	\$—	\$0.4	\$1.2	(\$0.1)	\$—	\$—	(\$117.8)	\$14.5
Amount excluded from effectiveness testing recognized in earnings based on amortization approach	—	—	—	—	—	—	2.0	1.3
Other:								
Amount reclassified from OCI into income	—	—	—	—	1.5	1.4	22.7	7.3
Total (Gain) Loss Reclassified from OCI to Income	—	0.4	1.2	(0.1)	1.5	1.4	(93.1)	23.1
Tax effects	—	(0.1)	(0.2)	—	(0.5)	(0.5)	22.4	(5.5)
Net (Gain) Loss Reclassified from OCI to Income	\$—	\$0.3	\$1.0	(\$0.1)	\$1.0	\$0.9	(\$70.7)	\$17.6
(Gain) Loss Effects of Fair Value Hedging:								
Other:								
Hedged items	\$—	\$—	\$—	\$—	\$4.4	(\$2.5)	\$—	\$—
Derivatives designated as hedging instruments	—	—	—	—	(4.4)	2.5	—	—
Total (Gain) Loss Recognized in Income	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—

The table below summarizes the location and amounts recognized in income related to our derivatives not designated as hedging instruments by contract type:

	Three Months Ended 31 December			
	Other Income (Expense), Net		Other Non-Operating Income (Expense), Net	
	2022	2021	2022	2021
The Effects of Derivatives Not Designated as Hedging Instruments:				
Forward Exchange Contracts	\$0.6	\$1.1	(\$1.6)	(\$0.6)
Other	—	—	1.1	0.1
Total (Gain) Loss Recognized in Income	\$0.6	\$1.1	(\$0.5)	(\$0.5)

The amount of unrealized gains and losses related to cash flow hedges as of 31 December 2022 that are expected to be reclassified to earnings in the next twelve months is not material.

The cash flows related to derivative contracts are generally 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 \$105.0 and \$114.8 as of 31 December 2022 and 30 September 2022, 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 \$36.3 and \$62.8 as of 31 December 2022 and 30 September 2022, respectively. No financial institution is required to post collateral at this time as all have credit ratings at or above threshold.

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 with original maturities greater than three months and less than one year. We estimated the fair value of our short-term investments, which approximates carrying value as of the balance sheet date, 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. 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 2022		30 September 2022	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	\$114.9	\$114.9	\$138.6	\$138.6
Interest rate management contracts	26.1	26.1	50.5	50.5
Liabilities				
Derivatives				
Forward exchange contracts	\$88.3	\$88.3	\$275.3	\$275.3
Interest rate management contracts	100.5	100.5	91.2	91.2
Long-term debt, including current portion and related party	8,055.6	7,227.2	7,634.1	6,721.2

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

	31 December 2022				30 September 2022			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	\$114.9	\$—	\$114.9	\$—	\$138.6	\$—	\$138.6	\$—
Interest rate management contracts	26.1	—	26.1	—	50.5	—	50.5	—
Total Assets at Fair Value	\$141.0	\$—	\$141.0	\$—	\$189.1	\$—	\$189.1	\$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	\$88.3	\$—	\$88.3	\$—	\$275.3	\$—	\$275.3	\$—
Interest rate management contracts	100.5	—	100.5	—	91.2	—	91.2	—
Total Liabilities at Fair Value	\$188.8	\$—	\$188.8	\$—	\$366.5	\$—	\$366.5	\$—

9. DEBT

Related Party Debt

Total debt owed to related parties was \$791.5 and \$781.0 as of 31 December 2022 and 30 September 2022, respectively, of which \$133.1 and \$129.0, respectively, was reflected within "Current portion of long-term debt" on our consolidated balance sheets. Our related party debt includes loans with joint venture partners, including Lu'An Clean Energy Company, as well as shareholder loans associated with the NEOM project. Refer to Note 16, *Supplemental Information*, for additional information.

Other

We have credit facilities available to certain of our foreign subsidiaries totaling \$1,319.5, of which \$751.9 was borrowed and outstanding as of 31 December 2022. The amount borrowed and outstanding as of 30 September 2022 was \$457.5. The increase from 30 September 2022 was driven by borrowings on a new variable-rate Saudi Riyal loan facility that matures in October 2026. The interest rate on the facility is based on the Saudi Arabian Interbank Offered Rate ("SAIBOR") plus an annual margin of 1.35%. We entered into this facility in October 2022 and utilized a portion of the proceeds to repay a variable-rate 4.10% Saudi Riyal Loan Facility of \$195.6, which was presented within long-term debt on our consolidated balance sheet as of 30 September 2022.

10. RETIREMENT BENEFITS

The components of net periodic (benefit) cost for our defined benefit pension plans for the three months ended 31 December 2022 and 2021 were as follows:

Three Months Ended 31 December	Pension Benefits					
	2022			2021		
	U.S.	Inter-national	Total	U.S.	Inter-national	Total
Service cost	\$2.7	\$3.3	\$6.0	\$4.6	\$5.6	\$10.2
Non-service (benefit) cost:						
Interest cost	32.5	14.4	46.9	18.4	7.6	26.0
Expected return on plan assets	(31.8)	(11.8)	(43.6)	(42.1)	(17.7)	(59.8)
Prior service cost amortization	0.3	—	0.3	0.3	—	0.3
Actuarial loss amortization	14.8	3.0	17.8	16.7	3.9	20.6
Settlements	—	—	—	0.9	—	0.9
Curtailements	—	(1.9)	(1.9)	—	—	—
Other	—	0.3	0.3	—	0.8	0.8
Net Periodic (Benefit) Cost	\$18.5	\$7.3	\$25.8	(\$1.2)	\$0.2	(\$1.0)

Our service costs are primarily included within "Cost of sales" and "Selling and administrative expense" on our consolidated income statements. The amount of service costs capitalized in the first three months of fiscal years 2023 and 2022 were not material. The non-service related impacts, including pension settlement losses and curtailment gains, are presented outside operating income within "Other non-operating income (expense), net."

For the three months ended 31 December 2022 and 2021, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were \$8.0 and \$9.1, respectively. Total contributions for fiscal year 2023 are expected to be approximately \$25 to \$35. During fiscal year 2022, total contributions were \$44.7.

In December 2022, we amended an international defined benefit pension plan to move its participants to a defined contribution plan for future benefit accumulation. As a result of this amendment, we recognized a \$1.9 curtailment gain for the write-off of prior service credits and remeasured the projected benefit obligations of the plan. This resulted in a net decrease to our projected benefit obligation and accumulated other comprehensive loss of \$9.1 in the first quarter of fiscal year 2023. The impact of the remeasurement on 2023 expense is not material.

During the three months ended 31 December 2022 and 2021, we recognized actuarial gain amortization of \$0.6 and \$0.4 respectively, for our other postretirement benefits plan.

11. COMMITMENTS AND CONTINGENCIES

Litigation

We are involved in various legal proceedings, including commercial, competition, environmental, intellectual property, regulatory, product liability, and insurance matters. 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.

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 \$34 at 31 December 2022) on Air Products Brasil Ltda. This fine was based on a recommendation by a unit of the Brazilian Ministry of Justice, following an investigation beginning in 2003, which alleged 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. In the event of an adverse final judgment, we estimate the maximum possible loss to be the full amount of the fine of R\$179.2 million (approximately \$34 at 31 December 2022) plus interest accrued thereon until final disposition of the proceedings.

Additionally, Winter Storm Uri, a severe winter weather storm in the U.S. Gulf Coast in February 2021, disrupted our operations and caused power and natural gas prices to spike significantly in Texas. We remain in litigation of a dispute regarding energy management services related to the impact of this event.

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 30 sites on which a final settlement or remediation has not been achieved where we, usually along with others, have been designated a potentially responsible party by environmental authorities 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 2022 and 30 September 2022 included an accrual of \$70.4 and \$71.3, 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 \$70 to a reasonably possible upper exposure of \$83 as of 31 December 2022.

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.

Pace

At 31 December 2022, \$37.9 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 recognized a before-tax expense of \$42 in fiscal year 2006 in results from discontinued operations and recorded an environmental accrual of \$42 in continuing operations on the consolidated balance sheets.

During the second quarter of fiscal year 2020, we completed an updated cost review of the environmental remediation status at the Pace facility. The review was completed in conjunction with requirements to maintain financial assurance per the Consent Order issued by the FDEP discussed below. Based on our review, we expect ongoing activities to continue for 30 years. Additionally, we will require near-term spending to install new groundwater recovery wells and ancillary equipment, in addition to future capital to consider the extended time horizon for remediation at the site. As a result of these changes, we increased our environmental accrual for this site by \$19 in continuing operations on the consolidated balance sheets and recognized a before-tax expense of \$19 in results from discontinued operations in the second quarter of fiscal year 2020. There have been no significant changes to the estimated exposure range related to the Pace facility since the second quarter of fiscal year 2020.

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 corrective action management unit. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. We completed an extensive assessment of the site to determine the efficacy of existing measures, 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 remediate groundwater. 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 completed additional field work during 2021 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. The design of the optimized recovery system will likely be initiated in fiscal year 2023 with construction to begin thereafter. 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, along with the completion of a cost review every 5 years.

Piedmont

At 31 December 2022, \$7.1 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, after which we signed a Consent Agreement Amendment memorializing our obligations to complete the cleanup of the site. Remediation has started in accordance with the design, which includes in-situ chemical oxidation treatment, as well as the installation of a soil vapor extraction system to remove volatile organic compounds from the unsaturated soils beneath the impacted areas of the plant. 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 2022, \$10.7 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 continue 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, continuing post closure care for two closed RCRA surface impoundment units, and maintaining engineering controls. Additionally, we have conducted an interim corrective action to treat impacted soils as recommended in the TCEQ 2019 Annual Report. In 2012, we estimated the total exposure at this site to be \$13. There have been no significant changes to the estimated exposure.

12. SHARE-BASED COMPENSATION

Our outstanding share-based compensation programs include deferred stock units and stock options. During the three months ended 31 December 2022, 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 and the exercise of stock options. As of 31 December 2022, there were 1.2 million shares available for future grant under our Long-Term Incentive Plan ("LTIP").

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

	Three Months Ended 31 December	
	2022	2021
Before-tax share-based compensation cost	\$16.9	\$16.8
Income tax benefit	(4.1)	(4.1)
After-tax share-based compensation cost	\$12.8	\$12.7

Before-tax share-based compensation cost is primarily included in "Selling and administrative expense" on our consolidated income statements. The amount of share-based compensation cost capitalized in the first three months of fiscal years 2023 and 2022 was not material.

Deferred Stock Units

During the three months ended 31 December 2022, we granted 85,612 market-based deferred stock units. The market-based deferred stock units are earned over the performance period beginning 1 October 2022 and ending 30 September 2025, conditioned on the level of our 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 \$502.03 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	32.5 %
Risk-free interest rate	4.0 %
Expected dividend yield	2.4 %

In addition, during the three months ended 31 December 2022, we granted 107,621 time-based deferred stock units at a weighted average grant-date fair value of \$310.79.

13. ACCUMULATED OTHER COMPREHENSIVE LOSS

The table below summarizes changes in accumulated other comprehensive loss ("AOCL"), net of tax, attributable to Air Products for the three months ended 31 December 2022:

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 30 September 2022	(\$71.9)	(\$2,072.4)	(\$641.8)	(\$2,786.1)
Other comprehensive income before reclassifications	121.0	509.6	6.7	637.3
Amounts reclassified from AOCL	(68.7)	—	11.9	(56.8)
Net current period other comprehensive income	52.3	509.6	18.6	580.5
Amount attributable to noncontrolling interests	(0.6)	13.2	0.1	12.7
Balance at 31 December 2022	(\$19.0)	(\$1,576.0)	(\$623.3)	(\$2,218.3)

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

	Three Months Ended 31 December	
	2022	2021
(Gain) Loss on Cash Flow Hedges, net of tax		
Sales	\$—	\$0.3
Cost of sales	1.0	(0.1)
Interest expense	1.0	0.9
Other non-operating income (expense), net	(70.7)	17.6
Total (Gain) Loss on Cash Flow Hedges, net of tax	(\$68.7)	\$18.7
Pension and Postretirement Benefits, net of tax^(A)	\$11.9	\$16.0

^(A)The components of net periodic benefit cost reclassified out of AOCL include items such as prior service cost amortization, actuarial loss amortization, settlements, and curtailments and are included in "Other non-operating income (expense), net" on the consolidated income statements. Refer to Note 10, *Retirement Benefits*, for additional information.

14. EARNINGS PER SHARE

The table below details the computation of basic and diluted earnings per share ("EPS"):

	Three Months Ended 31 December	
	2022	2021
Numerator		
Net income attributable to Air Products	\$572.2	\$560.4
Denominator (in millions)		
Weighted average common shares — Basic	222.2	221.9
Effect of dilutive securities		
Employee stock option and other award plans	0.4	0.7
Weighted average common shares — Diluted	222.6	222.6
Per Share Data (U.S. Dollars per share)		
Basic EPS attributable to Air Products	\$2.58	\$2.53
Diluted EPS attributable to Air Products	\$2.57	\$2.52

Outstanding share-based awards of 0.1 million shares were antidilutive and therefore excluded from the computation of diluted earnings per share for the three months ended 31 December 2022. For the three months ended 31 December 2021, there were no antidilutive outstanding share-based awards.

15. INCOME TAXES

Effective Tax Rate

Our effective tax rate was 18.9% and 17.1% for the three months ended 31 December 2022 and 2021, respectively.

Cash Paid for Taxes (Net of Cash Refunds)

Income tax payments, net of refunds, were \$88.5 and \$50.3 for the three months ended 31 December 2022 and 2021, respectively.

16. SUPPLEMENTAL INFORMATION

NEOM Green Hydrogen Project

In the fourth quarter of fiscal year 2020, we announced the NEOM Green Hydrogen Project (the "NEOM project"), a multi-billion dollar green hydrogen-based ammonia production facility powered by renewable energy located in the NEOM city of the Kingdom of Saudi Arabia. We, along with our joint venture partners, ACWA Power and NEOM Company, are equal owners in the newly formed NEOM Green Hydrogen Company joint venture ("NGHC") that will develop, construct, own, operate, and finance the NEOM project. The NEOM project is expected to be financed through non-recourse project financing and the partners' investments.

During the third quarter of fiscal year 2022, we entered into an agreement with NGHC under which we commenced construction of the NEOM project. In addition, we executed an agreement with NGHC under which we will be the exclusive offtaker of green ammonia produced by the NEOM project under a long-term take-if-tendered agreement. The NEOM project is expected to be on-stream in 2026. We intend to transport green ammonia around the world to be dissociated to produce green hydrogen, primarily for the transportation market.

Air Products has one-third of the voting interests in the NGHC joint venture; however, substantially all the activities of the joint venture involve or are conducted on behalf of Air Products. Since we have disproportionately few voting rights relative to our economic interests in the joint venture, we determined that NGHC is a variable interest entity. In addition, we determined that we are the primary beneficiary of NGHC since we have the power to unilaterally direct certain significant activities, including key design and construction decisions, and we share power with our joint venture partners related to other activities that are significant to the economic performance of NGHC. Therefore, we consolidated NGHC within the Middle East and India segment beginning in the third quarter of fiscal year 2022.

Our consolidated balance sheets include the following balances from the consolidation of NGHC:

	31 December 2022	30 September 2022
Cash and cash items	\$224	\$275
Other receivables and current assets	29	23
Plant and equipment, net	332	219
Payables and accrued liabilities	68	58
Long-term debt – related party	447	447
Noncontrolling interests	31	30

Related Party Transactions

We have related party sales to some of our equity affiliates and joint venture partners as well as other income primarily from fees charged for use of Air Products' patents and technology. Sales to and other income from related parties totaled approximately \$80 for each of the three months ended 31 December 2022 and 2021. Sales 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. As of 31 December 2022 and 30 September 2022, our consolidated balance sheets included related party trade receivables of approximately \$110 and \$55, respectively.

Refer to Note 9, *Debt*, for information concerning debt owed to related parties.

Changes in Estimates

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. We recorded changes to project cost estimates that unfavorably impacted operating income by approximately \$25 in the first three months of fiscal year 2023. The impact of changes in estimates in the first three months of fiscal year 2022 was not material.

Lessee Accounting

During the three months ended 31 December 2022, we recorded noncash right-of-use asset additions of approximately \$51, primarily for operating leases that had not yet commenced as of 30 September 2022.

17. BUSINESS SEGMENT INFORMATION

Our reportable segments reflect the manner in which our chief operating decision maker assesses performance and allocates resources. Our reportable segments are as follows:

- Americas;
- Asia;
- Europe;
- Middle East and India; and
- Corporate and other

Except for the Corporate and other segment, each reportable segment meets the definition of an operating segment and does not include the aggregation of multiple operating segments. Our Corporate and other segment includes the aggregation of three operating segments that meet the aggregation criteria under GAAP.

Summary by Business Segment

	Americas	Asia	Europe	Middle East and India	Corporate and other	Total
Three Months Ended 31 December 2022						
Sales	\$1,384.2	\$777.8	\$791.9	\$41.4	\$179.4	\$3,174.7 ^(A)
Operating income (loss)	343.0	235.9	145.8	6.7	(79.4)	652.0
Depreciation and amortization	156.0	101.9	44.3	6.6	12.7	321.5
Equity affiliates' income	16.4	7.4	17.7	64.1	4.4	110.0
Three Months Ended 31 December 2021						
Sales	\$1,224.1	\$780.4	\$744.2	\$23.7	\$221.8	\$2,994.2 ^(A)
Operating income (loss)	267.2	221.1	99.2	4.8	(69.3)	523.0
Depreciation and amortization	155.3	110.8	49.8	6.1	10.3	332.3
Equity affiliates' income	34.2	6.6	13.9	92.3	0.8	147.8
Total Assets						
31 December 2022	\$8,515.0	\$7,439.3	\$3,908.1	\$3,154.2	\$5,261.7	\$28,278.3
30 September 2022	8,237.7	6,968.7	3,645.1	2,980.7	5,360.4	27,192.6

^(A)Sales relate to external customers only. All intersegment sales are eliminated in consolidation.

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

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As used in the discussion that follows, unless the context indicates otherwise, the terms “we,” “our,” “us,” the “Company,” “Air Products,” or “registrant” include controlled subsidiaries and affiliates of Air Products. This discussion should be read in conjunction with the interim consolidated financial statements and the accompanying notes contained in this Quarterly Report on Form 10-Q. Unless otherwise stated, financial information is presented in millions of U.S. Dollars, except for per share data. Except for net income, which includes the results of discontinued operations, when applicable, financial information is presented on a continuing operations basis.

Comparisons of our results of operations and liquidity and capital resources are for the first quarter of fiscal year 2023 versus (“vs.”) the first quarter of fiscal year 2022. The disclosures provided in this Quarterly Report on Form 10-Q are complementary to those made in our Annual Report on Form 10-K for the fiscal year ended 30 September 2022 (the “[2022 Form 10-K](#)”), which was filed with the SEC on 22 November 2022.

The financial measures discussed below are presented in accordance with U.S. generally accepted accounting principles (“GAAP”), except as noted. We present certain financial measures on an “adjusted” or “non-GAAP” basis because we believe such measures, when viewed together with financial results computed in accordance with GAAP, provide a more complete understanding of the factors and trends affecting our historical financial performance. For each non-GAAP financial measure, including adjusted diluted earnings per share (“EPS”), adjusted EBITDA, adjusted EBITDA margin, adjusted effective tax rate, and capital expenditures, we present a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP. These reconciliations and explanations regarding the use of non-GAAP measures are presented under the “Reconciliations of Non-GAAP Financial Measures” section beginning on page [38](#).

For information concerning activity with our related parties, refer to Note 16, *Supplemental Information*, to the consolidated financial statements.

About Air Products

Air Products and Chemicals, Inc., a Delaware corporation originally founded in 1940, has built a reputation for its innovative culture, operational excellence, and commitment to safety and the environment. Our passionate, talented, and committed employees are from diverse backgrounds, but are driven by our higher purpose to create innovative solutions that benefit the environment, enhance sustainability, and address the challenges facing customers, communities, and the world. As of 30 September 2022, we had approximately 21,900 employees, of which over 90% were working full-time and 75% were located outside the United States. For information on our product, service, and solution offerings, refer to our [2022 Form 10-K](#).

We manage our operations, assess performance, and report earnings under five reportable segments: Americas, Asia, Europe, Middle East and India, and Corporate and other. This Management’s Discussion and Analysis discusses our results based on these operations.

FIRST QUARTER 2023 VS. FIRST QUARTER 2022

FIRST QUARTER 2023 IN SUMMARY

- Sales of \$3,174.7 increased 6%, or \$180.5, due to higher pricing of 7%, higher energy cost pass-through to customers of 3%, and higher volumes of 2%, partially offset by an unfavorable impact from currency of 6% due to the strengthening of the U.S. Dollar.
- Operating income of \$652.0 increased 25%, or \$129.0, as our pricing actions and higher volumes overcame the unfavorable impact from currency and higher costs. Operating margin of 20.5% increased 300 basis points ("bp"), primarily due to higher pricing, partially offset by unfavorable costs.
- Equity affiliates' income of \$110.0 decreased 26%, or \$37.8, primarily due to a prior year benefit associated with the sale of air separation units by the Jazan Gas Project Company joint venture.
- Net income of \$583.8 increased 6%, or \$34.2, primarily due to higher pricing and volumes, partially offset by unfavorable currency, lower equity affiliates' income, and higher costs. Net income margin of 18.4% was flat versus the prior year.
- Adjusted EBITDA of \$1,083.5 increased 8%, or \$80.4, and adjusted EBITDA margin of 34.1% increased 60 bp.
- Diluted EPS of \$2.57 increased 2%, or \$0.05 per share, and adjusted diluted EPS of \$2.64 increased 6%, or \$0.16 per share. A summary table of changes in diluted EPS is presented below.

Changes in Diluted EPS Attributable to Air Products

The per share impacts presented in the tables below were calculated independently and may not sum to the total change in diluted EPS due to rounding.

	Three Months Ended		Increase (Decrease)
	2022	2021	
Diluted EPS	\$2.57	\$2.52	\$0.05
Operating Impacts			
Underlying business			
Volume			\$0.03
Price, net of variable costs			0.71
Other costs			(0.11)
Currency			(0.15)
Total operating impacts			\$0.48
Other Impacts			
Equity affiliates' income			(\$0.14)
Interest expense			(0.04)
Other non-operating income/expense, net, excluding discrete item below			0.03
Non-service pension benefit/cost, net			(0.11)
Change in effective tax rate			(0.07)
Noncontrolling interests			(0.10)
Total other impacts			(\$0.43)
Total change in diluted EPS			\$0.05
% Change from prior year			2 %

Upon completion of the first phase of the Jazan gasification and power project in the first quarter of fiscal year 2022, we recognized a net benefit from the recognition of previously deferred profits, net of other project finalization costs, related to the Jazan Gas Project Company joint venture within "Equity affiliates' income." Our non-controlling partner's share of the project finalization costs favorably impacted EPS within "Noncontrolling interests." Diluted earnings per share for the first quarter of fiscal year 2022 reflects a total net benefit from this event of approximately \$0.20 per share.

The table below summarizes the diluted per share impact of our non-GAAP adjustments for the first quarter of fiscal years 2023 and 2022:

	Three Months Ended		Increase (Decrease)
	2022	2021	
Diluted EPS	\$2.57	\$2.52	\$0.05
Non-service pension (benefit) cost, net	0.07	(0.04)	0.11
Adjusted Diluted EPS	\$2.64	\$2.48	\$0.16

FIRST QUARTER 2023 RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Three Months Ended 31 December		Changes	
	2022	2021	\$	%/bp
GAAP Measures				
Sales	\$3,174.7	\$2,994.2	\$180.5	6 %
Operating income	652.0	523.0	129.0	25 %
Operating margin	20.5 %	17.5 %		300 bp
Equity affiliates' income	\$110.0	\$147.8	(\$37.8)	(26 %)
Net income	583.8	549.6	34.2	6 %
Net income margin	18.4 %	18.4 %		— bp
Non-GAAP Measures				
Adjusted EBITDA	\$1,083.5	\$1,003.1	\$80.4	8 %
Adjusted EBITDA margin	34.1 %	33.5 %		60 bp

Sales

The table below summarizes the major factors that impacted consolidated sales for the periods presented:

Volume	2 %
Price	7 %
Energy cost pass-through to customers	3 %
Currency	(6 %)
Total consolidated sales change	6 %

Sales of \$3,174.7 increased 6%, or \$180.5, due to positive pricing of 7%, higher energy cost pass-through to customers of 3%, and higher volumes of 2%, partially offset by an unfavorable currency impact of 6%. The pricing improvement was primarily attributable to our merchant businesses in the Americas and Europe segments. Higher contractual energy cost pass-through to our on-site customers was driven by our Europe segment, which continues to be impacted by historically heightened energy costs throughout the region. The volume improvement was primarily driven by higher demand for merchant products as well as our on-site business, partially offset by lower sale of equipment project activity. Currency was unfavorable as the U.S. Dollar strengthened against most major currencies.

Cost of Sales and Gross Margin

Cost of sales of \$2,272.3 increased 2%, or \$48.7, due to higher energy cost pass-through to customers of \$75, higher costs associated with sales volumes of \$55, and unfavorable other costs of \$56, partially offset by favorable currency impacts of \$137. The unfavorable other cost impact was driven by power for our merchant business, inflation, and higher planned maintenance. Gross margin of 28.4% increased 270 bp from 25.7% in the prior year, primarily due to the positive impact of our pricing actions, partially offset by the unfavorable costs.

Selling and Administrative Expense

Selling and administrative expense of \$234.4 increased 1%, or \$1.6, primarily due to inflation and increased headcount to support our growth strategy, partially offset by a favorable currency impact from the strengthening of the U.S. Dollar. Selling and administrative expense as a percentage of sales decreased to 7.4% from 7.8% in the prior year.

Research and Development Expense

Research and development expense of \$24.4 increased 5%, or \$1.1. Research and development expense as a percentage of sales of 0.8% was flat versus the prior year.

Other Income (Expense), Net

Other income of \$8.4 decreased 1%, or \$0.1.

Operating Income and Operating Margin

Operating income of \$652.0 increased 25%, or \$129.0, as positive pricing, net of power and fuel costs, of \$191 and higher volumes of \$8 were partially offset by an unfavorable currency impact of \$40 and higher costs of \$30. Costs were higher primarily due to labor inflation and higher planned maintenance.

Operating margin of 20.5% increased 300 bp from 17.5% in the prior year, primarily due to higher pricing, partially offset by unfavorable costs.

Equity Affiliates' Income

Equity affiliates' income of \$110.0 decreased 26%, or \$37.8, primarily due to the prior year recognition of the remaining deferred profit associated with air separation units previously sold to Jazan Gas Project Company, net of other project finalization costs, as well as a lower contribution from our Mexico affiliate. These impacts were partially offset by contributions from the Jazan Integrated Gasification and Power Company ("JIGPC") joint venture, which began contributing to our results in the Middle East and India segment in late October 2021. We expect the contribution from JIGPC to grow in future periods as a result of the second phase of the asset purchase associated with the Jazan gasification and power project, which was completed in January 2023. We expect final commissioning items to be completed later this calendar year.

Interest Expense

	Three Months Ended 31 December	
	2022	2021
Interest incurred	\$56.3	\$41.0
Less: Capitalized interest	15.1	10.5
Interest expense	\$41.2	\$30.5

Interest incurred increased 37%, or \$15.3, driven by a higher average interest rate on variable-rate instruments in our debt portfolio. Capitalized interest increased 44%, or \$4.6, due to a higher carrying value of projects under construction.

Other Non-Operating Income (Expense), Net

Other non-operating expense was \$0.6 versus income of \$22.6 in the prior year. The decrease of \$23.2 was primarily attributable to higher non-service pension costs, which were driven by higher interest cost and lower expected returns on plan assets for the U.S. salaried pension plan and the U.K. pension plan. This impact was partially offset by higher interest income on cash and cash items due to higher interest rates.

Net Income and Net Income Margin

Net income of \$583.8 increased 6%, or \$34.2, primarily due to higher pricing, net of power and fuel costs, and higher volumes, partially offset by unfavorable currency, lower equity affiliates' income, and higher costs driven by inflation, higher planned maintenance, and higher non-service pension costs. Additionally, the effective tax rate was higher in fiscal year 2023 as further discussed below. Net income margin of 18.4% was flat.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of \$1,083.5 increased 8%, or \$80.4, primarily due to higher pricing, net of power and fuel costs, and higher volumes, partially offset by unfavorable currency, lower equity affiliates' income, and higher costs driven by inflation and higher planned maintenance. Adjusted EBITDA margin of 34.1% increased 60 bp from 33.5% in the prior year.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. Equity affiliates' income is primarily included net of income taxes within income before taxes on our consolidated income statements.

Our effective tax rate was 18.9% and 17.1% for the three months ended 31 December 2022 and 2021, respectively. Our effective tax rate for the first quarter of fiscal year 2023 was higher primarily due to lower excess tax benefits on share-based compensation.

Many of our share-based compensation grants vest in December. Accordingly, the tax benefits from these awards typically have a larger impact on our first quarter effective tax rate compared to other periods.

Our adjusted effective tax rate was 19.1% and 17.0% for the three months ended 31 December 2022 and 2021, respectively.

Discussion of Results by Business Segment

Americas

	Three Months Ended 31 December		Changes	
	2022	2021	\$	%/bp
Sales	\$1,384.2	\$1,224.1	\$160.1	13 %
Operating income	343.0	267.2	75.8	28 %
Operating margin	24.8 %	21.8 %		300 bp
Equity affiliates' income	\$16.4	\$34.2	(\$17.8)	(52 %)
Adjusted EBITDA	515.4	456.7	58.7	13 %
Adjusted EBITDA margin	37.2 %	37.3 %		(10) bp

The table below summarizes the major factors that impacted sales in the Americas segment for the periods presented:

Volume	6 %
Price	9 %
Energy cost pass-through to customers	(1 %)
Currency	(1 %)
Total Americas sales change	13 %

Sales of \$1,384.2 increased 13%, or \$160.1, due to higher pricing of 9% and higher volumes of 6%, partially offset by lower energy cost pass-through to customers of 1% and an unfavorable currency impact of 1%. We successfully recovered higher energy costs in our merchant business through continued focus on pricing actions. The volume improvement was driven by better merchant demand as well as our on-site business.

Operating income of \$343.0 increased 28%, or \$75.8, primarily from positive pricing, net of power and fuel costs, of \$92 and favorable volumes of \$13, partially offset by higher costs of \$26. Higher costs were driven by higher planned maintenance and inflation. Operating margin of 24.8% increased 300 bp from 21.8% in the prior year primary due to the pricing improvement, which was partially offset by the impact of higher costs.

Equity affiliates' income of \$16.4 decreased 52%, or \$17.8, driven by our Mexico affiliate.

Asia

	Three Months Ended		Changes	
	2022	2021	\$	%/bp
Sales	\$777.8	\$780.4	(\$2.6)	— %
Operating income	235.9	221.1	14.8	7 %
Operating margin	30.3 %	28.3 %		200 bp
Equity affiliates' income	\$7.4	\$6.6	\$0.8	12 %
Adjusted EBITDA	345.2	338.5	6.7	2 %
Adjusted EBITDA margin	44.4 %	43.4 %		100 bp

The table below summarizes the major factors that impacted sales in the Asia segment for the periods presented:

Volume	7 %
Price	1 %
Energy cost pass-through to customers	2 %
Currency	(10 %)
Total Asia sales change	— %

Sales of \$777.8 were flat versus the prior year as higher volumes of 7%, higher energy cost pass-through to customers of 2%, and positive pricing of 1% were offset by an unfavorable impact from currency of 10%. Volumes improved overall despite COVID-19 impacts in certain parts of China. The results of our on-site business include positive volume contributions from several traditional industrial gas plants that were brought onstream across the region. The unfavorable currency impact was primarily attributable to the strengthening of the U.S. Dollar against the Chinese Renminbi and the South Korean Won.

Operating income of \$235.9 increased 7%, or \$14.8, due to higher volumes of \$24, positive pricing, net of power and fuel costs, of \$9, and lower costs of \$5, partially offset by an unfavorable currency impact of \$23. Operating margin of 30.3% increased 200 bp from 28.3% in the prior year due to the volume improvement and positive pricing.

Equity affiliates' income of \$7.4 increased 12%, or \$0.8.

Europe

	Three Months Ended		Changes	
	2022	2021	\$	%/bp
Sales	\$791.9	\$744.2	\$47.7	6 %
Operating income	145.8	99.2	46.6	47 %
Operating margin	18.4 %	13.3 %		510 bp
Equity affiliates' income	\$17.7	\$13.9	\$3.8	27 %
Adjusted EBITDA	207.8	162.9	44.9	28 %
Adjusted EBITDA margin	26.2 %	21.9 %		430 bp

The table below summarizes the major factors that impacted sales in the Europe segment for the periods presented:

Volume	(6 %)
Price	14 %
Energy cost pass-through to customers	9 %
Currency	(11 %)
Total Europe sales change	6 %

Sales of \$791.9 increased 6%, or \$47.7, due to higher pricing of 14% and higher energy cost pass-through to customers of 9%, partially offset by an unfavorable impact from currency of 11% and lower volumes of 6%. Price improved due to continued focus on recovering higher energy costs in our merchant business. Higher energy costs driven by natural gas prices in our on-site business were contractually passed through to customers. The volume decline was primarily attributable to lower demand for hydrogen and merchant products. Additionally, sales in this region were negatively impacted by the strengthening of the U.S. Dollar against the Euro and the British Pound Sterling.

Operating income of \$145.8 increased 47%, or \$46.6, as higher pricing, net of power and fuel costs, of \$89 was partially offset by lower volumes of \$23, an unfavorable currency impact of \$12, and higher costs of \$7. Operating margin of 18.4% increased 510 bp from 13.3% in the prior year primarily due to the pricing improvement, partially offset by the impact of lower volumes and higher costs.

Equity affiliates' income of \$17.7 increased 27%, or \$3.8, driven by an affiliate in Italy.

Middle East and India

	Three Months Ended		Changes	
	31 December			
	2022	2021	\$	%
Sales	\$41.4	\$23.7	\$17.7	75 %
Operating income	6.7	4.8	1.9	40 %
Equity affiliates' income	64.1	92.3	(28.2)	(31 %)
Adjusted EBITDA	77.4	103.2	(25.8)	(25 %)

Sales of \$41.4 increased 75%, or \$17.7, and operating income of \$6.7 increased 40%, or \$1.9, primarily driven by a small acquisition completed in January 2022. The positive profit impact from the acquisition was partially offset by higher costs for planned maintenance activities. Despite higher equity affiliates' income attributable to the JIGPC joint venture, which contributed for the full quarter in fiscal year 2023, equity affiliates' income of \$64.1 decreased 31%, or \$28.2, due to a net benefit recognized in fiscal year 2022 for the remaining deferred profit associated with air separation units previously sold to Jazan Gas Project Company, net of other project finalization costs. We expect the contribution from JIGPC to grow in future periods as a result of the second phase of the asset purchase associated with the Jazan gasification and power project, which was completed in January 2023. We expect final commissioning items to be completed later this calendar year.

Corporate and other

	Three Months Ended		Changes	
	31 December			
	2022	2021	\$	%
Sales	\$179.4	\$221.8	(\$42.4)	(19 %)
Operating loss	(79.4)	(69.3)	(10.1)	(15 %)
Adjusted EBITDA	(62.3)	(58.2)	(4.1)	(7 %)

Sales of \$179.4 decreased 19%, or \$42.4, and operating loss of \$79.4 increased 15%, or \$10.1, primarily due to lower project activity in our sale of equipment business. Our Corporate and other segment also incurs costs to provide corporate support functions and global management activities that benefit all segments, which have increased due to efforts to support our growth strategy.

RECONCILIATIONS OF NON-GAAP FINANCIAL MEASURES

(Millions of U.S. Dollars unless otherwise indicated, except for per share data)

We present certain financial measures, other than in accordance with U.S. generally accepted accounting principles ("GAAP"), on an "adjusted" or "non-GAAP" basis. On a consolidated basis, these measures include adjusted diluted earnings per share ("EPS"), adjusted EBITDA, adjusted EBITDA margin, the adjusted effective tax rate, and capital expenditures. On a segment basis, these measures include adjusted EBITDA and adjusted EBITDA margin. In addition to these measures, we also present certain supplemental non-GAAP financial measures to help the reader understand the impact that certain disclosed items, or "non-GAAP adjustments," have on the calculation of our adjusted diluted EPS. For each non-GAAP financial measure, we present a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP.

In many cases, non-GAAP financial measures are determined by adjusting the most directly comparable GAAP measure to exclude non-GAAP adjustments that we believe are not representative of our underlying business performance. For example, we exclude the impact of the non-service components of net periodic benefit/cost for our defined benefit pension plans as further discussed below. Additionally, we have previously excluded certain expenses associated with cost reduction actions, impairment charges, and gains on disclosed transactions. The reader should be aware that we may recognize similar losses or gains in the future.

When applicable, the tax impact of our pre-tax non-GAAP adjustments reflects the expected current and deferred income tax impact of our non-GAAP adjustments. These tax impacts are primarily driven by the statutory tax rate of the various relevant jurisdictions and the taxability of the adjustments in those jurisdictions.

We provide these non-GAAP financial measures to allow investors, potential investors, securities analysts, and others to evaluate the performance of our business in the same manner as our management. We believe these measures, when viewed together with 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. However, we caution readers not to consider these measures in isolation or as a substitute for the most directly comparable measures calculated in accordance with GAAP. Readers should also consider the limitations associated with these non-GAAP financial measures, including the potential lack of comparability of these measures from one company to another.

NON-GAAP ADJUSTMENTS

Non-Service Pension (Benefit)/Cost, Net

Effective beginning in the first quarter of fiscal year 2023, our adjusted EPS and the adjusted effective tax rate exclude the impact of non-service related components of net periodic benefit/cost for our defined benefit pension plans. The prior year non-GAAP financial measures presented below have been recast accordingly to conform to the fiscal year 2023 presentation. Non-service related components are recurring, non-operating items that include interest cost, expected returns on plan assets, prior service cost amortization, actuarial loss amortization, as well as special termination benefits, curtailments, and settlements. The net impact of non-service related components is reflected within "Other non-operating income (expense), net" on our consolidated income statements. Adjusting for the impact of non-service pension components provides management and users of our financial statements with a more accurate representation of our underlying business performance because these components are driven by factors that are unrelated to our operations, such as recent changes to the allocation of our pension plan assets associated with de-risking as well as volatility in equity and debt markets. Further, non-service related components are not indicative of our defined benefit plans' future contribution needs due to the funded status of the plans.

ADJUSTED DILUTED EPS

The table below provides a reconciliation to the most directly comparable GAAP measure for each of the major components used to calculate adjusted diluted EPS from continuing operations, which we view as a key performance metric. In periods that we have non-GAAP adjustments, we believe it is important for the reader to understand the per share impact of each such adjustment because management does not consider these impacts when evaluating underlying business performance. Per share impacts are calculated independently and may not sum to total diluted EPS and total adjusted diluted EPS due to rounding.

	Three Months Ended 31 December					
	Operating Income	Equity Affiliates' Income	Other Non-Operating Income/Expense, net	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
Q1 2023 vs. Q1 2022						
2023 GAAP	\$652.0	\$110.0	(\$0.6)	\$136.4	\$572.2	\$2.57
2022 GAAP	523.0	147.8	22.6	113.3	560.4	2.52
\$ Change GAAP						\$0.05
% Change GAAP						2 %
2023 GAAP	\$652.0	\$110.0	(\$0.6)	\$136.4	\$572.2	\$2.57
Non-service pension (benefit) cost, net	—	—	19.5	4.9	14.6	0.07
2023 Non-GAAP ("Adjusted")	\$652.0	\$110.0	\$18.9	\$141.3	\$586.8	\$2.64
2022 GAAP	\$523.0	\$147.8	\$22.6	\$113.3	\$560.4	\$2.52
Non-service pension (benefit) cost, net	—	—	(12.0)	(2.9)	(9.1)	(0.04)
2022 Non-GAAP ("Adjusted")	\$523.0	\$147.8	\$10.6	\$110.4	\$551.3	\$2.48
\$ Change Non-GAAP						\$0.16
% Change Non-GAAP						6 %

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

We define adjusted EBITDA as net income less income from discontinued operations, net of tax, and excluding non-GAAP adjustments, which we do 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 and adjusted EBITDA margin provide useful metrics for management to assess operating performance. Margins are calculated independently for each period by dividing each line item by consolidated sales for the respective period and may not sum to total margin due to rounding.

The table below presents consolidated sales and a reconciliation of net income on a GAAP basis to adjusted EBITDA and net income margin on a GAAP basis to adjusted EBITDA margin:

	Three Months Ended			
	2022		2021	
	\$	Margin	\$	Margin
Sales	\$3,174.7		\$2,994.2	
Net income and net income margin	\$583.8	18.4 %	\$549.6	18.4 %
Add: Interest expense	41.2	1.3 %	30.5	1.0 %
Less: Other non-operating income (expense), net	(0.6)	— %	22.6	0.8 %
Add: Income tax provision	136.4	4.3 %	113.3	3.8 %
Add: Depreciation and amortization	321.5	10.1 %	332.3	11.1 %
Adjusted EBITDA and adjusted EBITDA margin	\$1,083.5	34.1 %	\$1,003.1	33.5 %
Change GAAP				
Net income \$ change	\$34.2			
Net income % change	6%			
Net income margin change	— bp			
Change Non-GAAP				
Adjusted EBITDA \$ change	\$80.4			
Adjusted EBITDA % change	8%			
Adjusted EBITDA margin change	60 bp			

The tables below present sales and a reconciliation of operating income and operating margin by segment to adjusted EBITDA and adjusted EBITDA margin for the three months ended 31 December 2022 and 2021:

Americas

	Three Months Ended 31 December		Changes vs. Prior Year	
	2022	2021	\$	%/bp
Sales	\$1,384.2	\$1,224.1	\$160.1	13 %
Operating income	\$343.0	\$267.2	\$75.8	28 %
Operating margin	24.8 %	21.8 %		300 bp
Reconciliation of GAAP to Non-GAAP:				
Operating income	\$343.0	\$267.2		
Add: Depreciation and amortization	156.0	155.3		
Add: Equity affiliates' income	16.4	34.2		
Adjusted EBITDA	\$515.4	\$456.7	\$58.7	13 %
Adjusted EBITDA margin	37.2 %	37.3 %		(10) bp

Asia

	Three Months Ended 31 December		Changes vs. Prior Year	
	2022	2021	\$	%/bp
Sales	\$777.8	\$780.4	(\$2.6)	— %
Operating income	\$235.9	\$221.1	\$14.8	7 %
Operating margin	30.3 %	28.3 %		200 bp
Reconciliation of GAAP to Non-GAAP:				
Operating income	\$235.9	\$221.1		
Add: Depreciation and amortization	101.9	110.8		
Add: Equity affiliates' income	7.4	6.6		
Adjusted EBITDA	\$345.2	\$338.5	\$6.7	2 %
Adjusted EBITDA margin	44.4 %	43.4 %		100 bp

Europe

	Three Months Ended 31 December		Changes vs. Prior Year	
	2022	2021	\$	%/bp
Sales	\$791.9	\$744.2	\$47.7	6 %
Operating income	\$145.8	\$99.2	\$46.6	47 %
Operating margin	18.4 %	13.3 %		510 bp
Reconciliation of GAAP to Non-GAAP:				
Operating income	\$145.8	\$99.2		
Add: Depreciation and amortization	44.3	49.8		
Add: Equity affiliates' income	17.7	13.9		
Adjusted EBITDA	\$207.8	\$162.9	\$44.9	28 %
Adjusted EBITDA margin	26.2 %	21.9 %		430 bp

Middle East and India

	<u>Three Months Ended 31</u> <u>December</u>		<u>Changes vs.</u> <u>Prior Year</u>	
	2022	2021	\$	%/bp
Sales	\$41.4	\$23.7	\$17.7	75 %
Operating income	\$6.7	\$4.8	\$1.9	40 %
Reconciliation of GAAP to Non-GAAP:				
Operating income	\$6.7	\$4.8		
Add: Depreciation and amortization	6.6	6.1		
Add: Equity affiliates' income	64.1	92.3		
Adjusted EBITDA	\$77.4	\$103.2	(\$25.8)	(25 %)

Corporate and other

	<u>Three Months Ended 31</u> <u>December</u>		<u>Changes vs.</u> <u>Prior Year</u>	
	2022	2021	\$	%/bp
Sales	\$179.4	\$221.8	(\$42.4)	(19 %)
Operating loss	(\$79.4)	(\$69.3)	(\$10.1)	(15 %)
Reconciliation of GAAP to Non-GAAP:				
Operating loss	(\$79.4)	(\$69.3)		
Add: Depreciation and amortization	12.7	10.3		
Add: Equity affiliates' income	4.4	0.8		
Adjusted EBITDA	(\$62.3)	(\$58.2)	(\$4.1)	(7 %)

ADJUSTED EFFECTIVE TAX RATE

The effective tax rate equals the income tax provision divided by income before taxes. We calculate our adjusted effective tax rate by adjusting the numerator and denominator to exclude the tax and before tax impacts of our non-GAAP adjustments, respectively. The table below presents a reconciliation of the GAAP effective tax rate to our adjusted effective tax rate:

	Three Months Ended 31 December	
	2022	2021
Income tax provision	\$136.4	\$113.3
Income before taxes	720.2	662.9
Effective tax rate	18.9 %	17.1 %
Income tax provision	\$136.4	\$113.3
Non-service pension tax impact	4.9	(2.9)
Adjusted income tax provision	\$141.3	\$110.4
Income before taxes	\$720.2	\$662.9
Non-service pension (benefit) cost, net	19.5	(12.0)
Adjusted income before taxes	\$739.7	\$650.9
Adjusted effective tax rate	19.1 %	17.0 %

CAPITAL EXPENDITURES

We define capital expenditures as cash flows for additions to plant and equipment, including long-term deposits, acquisitions (less cash acquired), and investment in and advances to unconsolidated affiliates. A reconciliation of cash used for investing activities to our reported capital expenditures is provided below:

	Three Months Ended 31 December	
	2022	2021
Cash used for investing activities	\$256.2	\$1,719.1
Proceeds from sale of assets and investments	4.0	1.1
Purchases of investments	(19.2)	(727.4)
Proceeds from investments	591.5	1,331.9
Other investing activities	1.7	6.4
Capital expenditures	\$834.2	\$2,331.1

LIQUIDITY AND CAPITAL RESOURCES

Our cash balance and cash flows from operations are our primary sources of liquidity and are generally sufficient to meet our liquidity needs. In addition, we have the flexibility to access capital through a variety of financing activities, including accessing the capital markets, drawing upon our credit facility, or alternatively, accessing the commercial paper markets. At this time, we have not utilized, nor do we expect to access, our credit facility for additional liquidity.

As of 31 December 2022, we had \$1,516.3 of foreign cash and cash items compared to total cash and cash items of \$3,131.0. We 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 repatriation to the U.S. 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.

Cash Flows From Operations

Three Months Ended 31 December	2022	2021
Net income attributable to Air Products	\$572.2	\$560.4
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	321.5	332.3
Deferred income taxes	13.8	15.7
Distributed (Undistributed) earnings of equity method investments	17.2	(117.3)
Gain on sale of assets and investments	(2.3)	(0.8)
Share-based compensation	16.1	15.8
Noncurrent lease receivables	19.4	21.8
Other adjustments	99.0	(49.4)
Changes in working capital accounts	(337.6)	6.7
Cash Provided by Operating Activities	\$719.3	\$785.2

For the first three months of fiscal year 2023, cash provided by operating activities was \$719.3. Distributed earnings of equity method investments reflect distributions in excess of earnings for the period of \$17.2. Other adjustments of \$99.0 primarily included adjustments for noncash currency impacts of intercompany balances. The working capital accounts were a use of cash of \$337.6, primarily driven by \$257.6 from payables and accrued liabilities and \$102.8 from inventory. The use of cash within payables and accrued liabilities primarily resulted from the decrease in value of derivatives that hedge intercompany loans, payments for incentive compensation under the fiscal year 2022 plan and a reduction of liabilities associated with the purchase of natural gas.

For the first three months of fiscal year 2022, cash provided by operating activities was \$785.2. The working capital accounts were a source of cash of \$6.7, primarily driven by a source of cash of \$167.6 from payables and accrued liabilities, partially offset by a use of cash of \$132.7 from trade receivables, less allowances. The source of cash within payables and accrued liabilities primarily resulted from customer advances for sale of equipment projects and higher natural gas costs, which also drove the use of cash within trade receivables as we contractually passed through these higher costs to customers.

Cash Flows From Investing Activities

Three Months Ended 31 December	2022	2021
Additions to plant and equipment, including long-term deposits	(\$834.2)	(\$663.8)
Acquisitions, less cash acquired	—	(34.6)
Investment in and advances to unconsolidated affiliates	—	(1,632.7)
Proceeds from sale of assets and investments	4.0	1.1
Purchases of investments	(19.2)	(727.4)
Proceeds from investments	591.5	1,331.9
Other investing activities	1.7	6.4
Cash Used for Investing Activities	(\$256.2)	(\$1,719.1)

For the first three months of fiscal year 2023, cash used for investing activities was \$256.2. Capital expenditures for additions to plant and equipment, including long-term deposits, were \$834.2. Proceeds from investments of \$591.5 resulted from maturities of time deposits and treasury securities with terms greater than three months but less than one year and exceeded purchases of investments of \$19.2.

For the first three months of fiscal year 2022, cash used for investing activities was \$1,719.1. Capital expenditures primarily included \$1,632.7 for investment in and advances to unconsolidated affiliates, as further discussed below. Proceeds from investments of \$1,331.9 resulted from maturities of time deposits and treasury securities with terms greater than three months but less than one year and exceeded purchases of investments of \$727.4.

Capital Expenditures

Capital expenditures is a non-GAAP financial measure that we define as cash flows for additions to plant and equipment, including long-term deposits, acquisitions (less cash acquired), and investment in and advances to unconsolidated affiliates. The components of our capital expenditures are detailed in the table below. We also present a reconciliation of our capital expenditures to cash used for investing activities on page [43](#).

	Three Months Ended 31 December	
	2022	2021
Additions to plant and equipment, including long-term deposits	\$834.2	\$663.8
Acquisitions, less cash acquired	—	34.6
Investment in and advances to unconsolidated affiliates	—	1,632.7
Capital Expenditures^(A)	\$834.2	\$2,331.1

^(A)Includes contributions from noncontrolling partners in consolidated subsidiaries, including investments associated with the Jazan gasification and power project as discussed below.

Capital expenditures for the first three months of fiscal year 2023 totaled \$834.2 compared to \$2,331.1 for the first three months of fiscal year 2022. The prior year included our initial investment of \$1.6 billion in the JIGPC joint venture in the first quarter of fiscal year 2022. This investment included approximately \$130 from the noncontrolling partner of Air Products Qudra. Refer to Note 5, *Equity Affiliates*, to the consolidated financial statements for additional information.

Subsequent Event

On 19 January 2023, we made an additional investment of \$908 toward the second phase of the Jazan gasification and power project. This investment included \$73 received from the noncontrolling partner of Air Products Qudra. We expect to complete a remaining investment of approximately \$115, including approximately \$9 from the non-controlling partner of Air Products Qudra, later this calendar year.

Outlook for Investing Activities

It is not possible, without unreasonable efforts, to reconcile our forecasted capital expenditures to future cash used for investing activities because we are unable to identify the timing or occurrence of our future investment activity, which is driven by our assessment of competing opportunities at the time we enter into transactions. These decisions, either individually or in the aggregate, could have a significant effect on our cash used for investing activities.

We expect capital expenditures for fiscal year 2023 to be approximately \$5 to \$5.5 billion.

Cash Flows From Financing Activities

Three Months Ended 31 December	2022	2021
Long-term debt proceeds	\$476.3	\$51.6
Payments on long-term debt	(195.9)	(400.0)
Net (decrease) increase in commercial paper and short-term borrowings	(4.1)	113.1
Dividends paid to shareholders	(359.4)	(332.1)
Proceeds from stock option exercises	14.0	13.3
Other financing activities	(16.5)	(31.0)
Cash Used for Financing Activities	(\$85.6)	(\$585.1)

For the first three months of fiscal year 2023, cash used for financing activities was \$85.6. The use of cash was primarily driven by dividend payments to shareholders of \$359.4 and payments on long-term debt of \$195.9 partially offset by long-term debt proceeds of \$476.3. Refer to the *Credit Facilities* section below and Note 9, *Debt*, to the consolidated financial statements for additional information.

For the first three months of fiscal year 2022, cash used for financing activities was \$585.1. The use of cash was primarily driven by payments on long-term debt of \$400.0 for the repayment of a 3.0% Senior Note and dividend payments to shareholders of \$332.1. These uses of cash were partially offset by short-term borrowings and long-term debt proceeds of \$113.1 and \$51.6, respectively.

Financing and Capital Structure

Debt

Capital needs in the first three months of fiscal year 2023 were satisfied with our cash balance, cash from operations and long-term borrowings. Total debt increased from \$7,644.8 as of 30 September 2022 to \$8,057.8 as of 31 December 2022. Total debt includes related party debt of \$791.5 and \$781.0 as of 31 December 2022 and 30 September 2022, respectively.

Various debt agreements to which we are a party include financial covenants and other restrictions, including restrictions pertaining to the ability to create property liens and enter into certain sale and leaseback transactions. As of 31 December 2022, we are in compliance with all of the financial and other covenants under our debt agreements.

Credit Facilities

We have a five-year \$2,750 revolving credit agreement maturing 31 March 2026 with a syndicate of banks (the "2021 Credit Agreement"), under which senior unsecured debt is available to us and certain of our subsidiaries. The 2021 Credit Agreement provides a source of liquidity and supports our commercial paper program. The only financial covenant in the 2021 Credit Agreement is a maximum ratio of total debt to total capitalization (equal to total debt plus total equity) not to exceed 70%. Total debt as of 31 December 2022 and 30 September 2022, expressed as a percentage of total capitalization, was 35.7% and 35.8%, respectively. No borrowings were outstanding under the 2021 Credit Agreement as of 31 December 2022.

We also have credit facilities available to certain of our foreign subsidiaries totaling \$1,319.5, of which \$751.9 was borrowed and outstanding as of 31 December 2022. The amount borrowed and outstanding as of 30 September 2022 was \$457.5. The increase from 30 September 2022 was driven by borrowings on a new variable-rate Saudi Riyal loan facility that matures in October 2026. The interest rate on the facility is based on the Saudi Arabian Interbank Offered Rate ("SAIBOR") plus an annual margin of 1.35%. We entered into this facility in October 2022 and utilized a portion of the proceeds to repay a variable-rate 4.10% Saudi Riyal Loan Facility of \$195.6, which was presented within long-term debt on our consolidated balance sheet as of 30 September 2022.

Equity Securities

On 15 September 2011, the Board of Directors authorized the repurchase of up to \$1,000 of our outstanding common stock. We did not purchase any of our outstanding shares in the first three months of fiscal years 2023 or 2022. As of 31 December 2022, \$485.3 in share repurchase authorization remained.

Dividends

The Board of Directors determines whether to declare cash dividends on our common stock and the timing and amount based on financial condition and other factors it deems relevant. Dividends are paid quarterly, usually during the sixth week after the close of the fiscal quarter. We expect to continue to pay cash dividends in the future at comparable or increased levels.

On 22 November 2022, the Board of Directors declared a quarterly dividend of \$1.62 per share that is payable on 13 February 2023 to shareholders of record at the close of business on 3 January 2023.

On 26 January 2023, the Board of Directors declared a quarterly dividend of \$1.75 per share, representing an 8% increase, or \$0.13 per share, from the prior quarterly dividend of \$1.62 per share. The dividend is payable on 8 May 2023 to shareholders of record at the close of business on 3 April 2023. This is the 41st consecutive year that we have increased our quarterly dividend.

PENSION BENEFITS

We and certain of our subsidiaries sponsor defined benefit pension plans and defined contribution plans that cover a substantial portion of our worldwide employees. The principal defined benefit pension plans are the U.S. salaried pension plan and the U.K. pension plan. These plans were closed to new participants in 2005, after which defined contribution plans were offered to new employees. The shift to defined contribution plans is expected to continue to reduce volatility of both plan expense and contributions. For additional information, refer to Note 10, *Retirement Benefits*, to the consolidated financial statements.

Net Periodic Cost/Benefit

The table below summarizes the components of net periodic cost/benefit for our U.S. and international defined benefit pension plans:

	Three Months Ended	
	31 December	
	2022	2021
Service cost	\$6.0	\$10.2
Non-service related cost (benefit)	19.5	(12.0)
Other	0.3	0.8
Net periodic cost (benefit)	\$25.8	(\$1.0)

Net periodic cost was \$25.8 for the first quarter of fiscal year 2023 versus a benefit of \$1.0 in the prior year. The increased costs from the prior year were primarily attributable to higher non-service costs, which were driven by higher interest cost and lower expected returns on plan assets due to a smaller beginning balance of plan assets. Fiscal year 2023 non-service items also include a \$1.9 curtailment gain for the write-off of prior service credits in an amended international defined benefit pension plan. Non-service related components of net periodic cost/benefit are reflected within "Other non-operating income (expense), net" on our consolidated income statements.

Service costs result from benefits earned by active employees and are reflected as operating expenses primarily within "Cost of sales" and "Selling and administrative expense" on our consolidated income statements. The amount of service costs capitalized in the first quarter of fiscal years 2023 and 2022 was not material.

Company Contributions

Management considers various factors when making pension funding decisions, including tax, cash flow, and regulatory implications. For the three months ended 31 December 2022 and 2021, our cash contributions to funded pension plans and benefit payments for unfunded pension plans were \$8.0 and \$9.1, respectively.

Funding Outlook

Total contributions for fiscal year 2023 are expected to be approximately \$25 to \$35. During fiscal year 2022, total contributions were \$44.7.

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 as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates reflect our best judgment about current and/or future economic and market conditions and their effect based on information available as of the date of our consolidated financial statements. If conditions change, actual results may differ materially from these estimates.

Judgments and estimates of uncertainties are required to apply 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 about the effects of matters that are inherently uncertain. A description of our major accounting policies, including those that we consider to be the most critical to understanding our financial statements, is included in our 2022 Form 10-K. There have been no changes to our accounting policies or estimates during the first three months of fiscal year 2023 that had a significant impact on our financial condition, change in financial condition, liquidity, or results of operations.

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 2022 Form 10-K.

Our net financial instrument position increased from a liability of \$6,898.6 at 30 September 2022 to a liability of \$7,275.0 at 31 December 2022. The increase was primarily due to long-term debt proceeds net of repayments and the effect of a weaker U.S. Dollar on foreign currency-denominated debt.

Interest Rate Risk

The sensitivity analysis related to the interest rate risk on the fixed portion of our debt portfolio assumes an instantaneous 100 bp move in interest rates from the level at 31 December 2022, with all other variables held constant. A 100 bp increase in market interest rates would result in a decrease of \$354 and \$364 in the net liability position of financial instruments at 31 December 2022 and 30 September 2022, respectively. A 100 bp decrease in market interest rates would result in an increase of \$412 and \$425 in the net liability position of financial instruments at 31 December 2022 and 30 September 2022, respectively.

There were no material changes to the sensitivity analysis related to the variable portion of our debt portfolio since 30 September 2022.

Foreign Currency Exchange Rate Risk

The sensitivity analysis related to foreign currency exchange rates assumes an instantaneous 10% change in foreign currency exchange rates from their levels at 31 December 2022, with all other variable 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 \$188 and \$165 in the net liability position of financial instruments at 31 December 2022 and 30 September 2022, respectively.

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, our management conducted an evaluation of the effectiveness of our disclosure controls and procedures as of 31 December 2022. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of 31 December 2022, our disclosure controls and procedures were effective.

Internal Control Over Financial Reporting

There was no change in our 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 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 6. Exhibits.

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

Exhibit No.	Description
(10)	Material Contracts
10.1	Form of Restricted Stock Unit Award Agreement under the Long-Term Incentive Plan of the Company, used for FY2023 Awards. †
10.2	Form of Performance Share Award Agreement under the Long-Term Incentive Plan of the Company, used for FY2023 Awards. †
(31)	Rule 13a-14(a)/15d-14(a) Certifications
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)	Section 1350 Certifications
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)	Interactive Data Files
101.INS	Inline 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	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
104	Cover Page Interactive Data File, formatted in Inline XBRL (included in Exhibit 101).

† Indicates management contract or compensatory arrangement.

†† 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.

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)

By:

/s/ Melissa N. Schaeffer

Melissa N. Schaeffer
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: 2 February 2023

Air Products and Chemicals, Inc. (the "Company")
Restricted Stock Unit Award Agreement

Company Confidential Communication to: «Participant Name»

You have been granted a Restricted Stock Unit award under the Air Products and Chemicals, Inc. 2021 Long-Term Incentive Plan (the "Plan").

Your FY2023 award consists of «Shares Granted» 4-Year Restricted Stock Units, each Unit being equivalent in value to one share of Common Stock.

Your FY2023 Restricted Stock Unit Award is subject to and contingent upon your agreement to the conditions described in Exhibit A and the terms described in Exhibit B (collectively, the "Conditions"). Please read the Conditions carefully, particularly the descriptions of the "Restrictive Covenants." This letter, together with its Exhibits, constitutes the agreement governing your FY2023 Restricted Stock Unit Award ("Award Agreement"). Your FY2023 Restricted Stock Unit Award is also at all times subject to the applicable provisions of the Plan and to any determinations made by the Administrator or its delegate, with respect to your FY2023 Restricted Stock Unit Award as contemplated or permitted by the Plan or the Conditions. By accepting this award, you will be deemed to have accepted and agreed to the terms and conditions of the Award Agreement and the Plan.

None of your FY2023 Restricted Stock Unit Award, this Award Agreement or the Plan constitute a contract of employment; nor do they guarantee your continued employment for any period required for all or any of your FY2023 Restricted Stock Unit Award to vest, become exercisable, be earned or be paid out. Except as otherwise indicated all capitalized words used in this Award Agreement have the meanings described in the Plan.

WITNESSETH the due execution of this Award Agreement by the Company effective as of the 1st day of December 2022 and your acceptance of the Award Agreement intending to be legally bound hereby.

AIR PRODUCTS AND CHEMICALS, INC.

By:



Seifi Ghasemi

EXHIBIT A

FY2023 AWARDS UNDER THE PLAN ARE SUBJECT TO THE FOLLOWING CONDITIONS:

In the event the Company determines, in its sole discretion, that you have violated the restrictive covenants set forth in Paragraph 1 (the “Restrictive Covenants”), at any time during your employment, or within two years after termination of your employment from the Company, the Company shall be entitled to (i) preliminary and permanent injunctive relief, without the necessity of providing actual damages or posting of a bond, (ii) damages equal to an equitable accounting of all earnings, profits and other benefits arising from such violation of Paragraph 1, (iii) cancel, not deliver, modify, rescind, suspend, withhold, or otherwise limit or restrict any unexpired, unpaid, unexercised or deferred Awards outstanding under the Plan, and (iv) recoup the proceeds from any exercise, payment or delivery of an Award or any shares of Common Stock issued pursuant to an Award. In the event that the Company determines that you are subject to recoupment under these Restrictive Covenants, you shall repay the Company the amount determined by the Company, in such manner and on such terms as may be required by the Company, and the Company shall be entitled to set off against the amount due under this provision any amount owed to you by the Company (including by causing the cancellation of any outstanding incentive Award due to you).

1. Restrictive Covenants.

- (a) Definitions. For purposes of this Paragraph 1, the following words shall have the following definitions.
- (i) “Affiliate” of a specified Person shall mean any Person which is under common control with the specified Person, or of which the specified Person is an executive officer, manager, trustee, executor or similar controlling Person.
 - (ii) “Company” shall include Air Products and Chemicals, Inc. and the subsidiaries and Affiliates of Air Products and Chemicals, Inc.
 - (iii) “Business of the Company” means the production, manufacturing and distribution of industrial gases, including atmospheric and process gases; the designing and manufacturing of equipment for the production, processing, purification distribution or storage of gases or for natural gas liquefaction; and any other line of business conducted, developed or being developed by the Company during your employment with the Company, in each case, in which you are or were involved during the course of your employment with the Company or about which you possess Confidential Information.
 - (iv) “Confidential Information” means any non-public, proprietary confidential or trade secret information of the Company and/or its customers, including but not limited to, business processes, know-how, practices, methods, plans, research, operations, services, strategies, techniques, formulae, manuals, data, notes, diagrams, customer or vendor information, pricing or cost information, product plans, designs, experimental processes and inventions.

- (v) “Person” means any natural person, corporation, general partnership, limited partnership, limited liability company or partnership, joint venture, proprietorship or other business organization.
- (vi) “Provide Services” means to directly or indirectly, own, manage, control, or participate in the ownership, management or control of, or be employed or engaged by, participate in, serve on the board of directors of, consult with, contribute to, hold a security interest in, render services for, give advice to, provide assistance to or be otherwise affiliated or associated with.
- (vii) “Restricted Area” means any country in which you worked during your employment with the Company, over which you had supervisory responsibility for the Business of the Company while employed by the Company, or with respect to which you have Confidential Information pertaining to the Business of the Company.

(b) Acknowledgment.

- (i) You hereby expressly acknowledge and agree that the obligations in this Award Agreement are in addition to, and shall not supersede, the obligations you may have pursuant to other agreements with the Company, including, without limitation, your obligations under your Employee Patent and Confidential Information Agreement that you entered into when you were employed by the Company, which shall continue to apply in accordance with its terms.
- (ii) You acknowledge and agree that (A) the Business of the Company is intensely competitive and that your employment with the Company has required you to have access to, and knowledge of, Confidential Information, which is of vital importance to the success of the Business of the Company; (B) the use, disclosure or dissemination of any Confidential Information, except on behalf of the Company, could place the Company at a serious competitive disadvantage and could do serious damage, financial and otherwise, to the Business of the Company; and (C) the Company is engaged in business, and has customers, throughout the world.
- (iii) You further understand and acknowledge that the Company invests in customer relationships and as a result, has developed and will develop considerable goodwill with and among its customers. You agree that the Restrictive Covenants articulated herein are necessary to protect the Company’s legitimate business interests in its Confidential Information and goodwill, and that the Company would not have provided the good and valuable consideration set forth in this Award Agreement in absence of such restrictions. You further understand and acknowledge that the Company will be irreparably harmed if you violate the Restrictive Covenants articulated herein.

- (c) Confidential Information. You agree that you have and will at all times hereafter, (A) treat all Confidential Information as strictly confidential; and (B) not directly or indirectly disclose, publish, communicate or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any Person who is not authorized by the Company

to know such Confidential Information in the furtherance of the Company's business.

- (d) Non-Disparagement. During your employment by the Company and for two years after your employment with the Company terminates for any reason, you agree not to directly or indirectly make, or cause to be made, any statement, observation or opinion that disparages or impugns the business or reputation of the Company, its products, services, agents or employees. You understand that this Section 1(d) does not, in any way, restrict or impede me from (i) exercising my rights under Section 7 of the National Labor Relations Act (or any other protected rights) to the extent that such rights cannot be waived by agreement.
- (e) Permitted Disclosures. Pursuant to 18 U.S.C. § 1833(b), you understand that you will not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret of the Company that (i) is made (A) in confidence to a Federal, State, or local government official, either directly or indirectly, or to your attorney and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. You understand that if you file a lawsuit for retaliation by the Company for reporting a suspected violation of law, you may disclose the trade secret to your attorney and use the trade secret information in the court proceeding if you (I) file any document containing the trade secret under seal, and (II) do not disclose the trade secret, except pursuant to court order. Nothing in this Award Agreement, or any other agreement you have with the Company, is intended to conflict with 18 U.S.C. § 1833(b) or create liability for disclosures of trade secrets that are expressly allowed by such section. Further, nothing in this Award Agreement or any other agreement you have with the Company shall prohibit or restrict you from making any disclosure of information or documents to any governmental agency or legislative body, or any self-regulatory organization, in each case, without advance notice to the Company.
- (f) Return of Company Property. You represent that upon request from the Company at any time and, without request, upon termination of your employment with the Company for any reason, you will deliver to the Company all memoranda, notes, records, manuals, or other documents, including all electronic or other copies of such materials and all documentation prepared or produced in connection therewith, containing Confidential Information, which is in your possession, custody and control, whether made or compiled by you or furnished to you by virtue of your employment with the Company. You further represent that you will deliver to the Company all vehicles, computers, credit cards, telephones, handheld electronic devices, office equipment and other property furnished to you by virtue of your employment with the Company.
- (g) Notice. You agree that during your employment with the Company and for two years after your employment with the Company terminates for any reason (the "Restricted Period"), you will give the Company ten (10) business days' written notice of your intention to Provide Services to any other Person that engages in or is preparing to engage in the Business of the Company within the Restricted Area. Such written notice must provide sufficiently detailed information so as to allow the Company to determine if you will be in breach of this Award Agreement if you Provide Services to such other Person.

- (h) Non-Competition. During your employment by the Company and, unless you are an Excluded Service Provider, during the Restricted Period, you agree that you will not Provide Services to any Person, other than the Company, that engages in or is preparing to engage in the Business of the Company within the Restricted Area, unless (i) such other Person also engages in lines of business that are separate, distinct and divisible from the Business of the Company, (ii) you do not Provide Services, Confidential Information or strategy to the Business of the Company conducted by such other Person, and (iii) you do not attend meetings where the Business of the Company conducted by such other Person is discussed or where you could, even inadvertently, disclose Confidential Information. Your passive ownership of not more than one percent (1%) of the capital stock or other ownership or equity interest, or voting power, in a public company, registered under the Securities Exchange Act of 1934, as amended, shall not be deemed to be a violation of this paragraph. For the avoidance of doubt, if you are an Excluded Service Provider, as described in Section 1(l) below (Grantees in California and Certain Other Jurisdictions), this Section 1(h) applies to you while you are providing services to the Company and does not apply to you during the Restricted Period.
- (i) Non-Solicitation; Non-Interference. During your employment by the Company and, unless you are an Excluded Service Provider, during the Restricted Period, you also agree that you will not, directly or indirectly without the prior written consent of the Company:
- (i) encourage, persuade, induce, or attempt to encourage or persuade or induce, any person who is an employee at the grade level of 118 or above, an officer, or a director of the Company, in each case, to terminate such relationship with the Company; or hire or engage, participate in the hiring or engagement of, or solicit or make an offer of employment or engagement to any employee at the grade level of 118 or above, officer or director of the Company who was employed or engaged by the Company as of your last day of employment with the Company.
 - (ii) on behalf of any Person engaged in the Business of the Company (other than the Company) solicit, contact, or attempt to solicit or contact any current, former or prospective customer of the Company whom you had contacted within the twenty-four (24) months prior to your last day of employment with the Company or about whom you have any Confidential Information.
 - (iii) encourage or persuade, or attempt to encourage or persuade any (A) customer of the Company, (B) potential customer of the Company during the last twenty-four (24) months of your employment with the Company with which or with whom you knew to be such a potential customer, or (C) prior customer of the Company, in each case, not to do business with the Company or to reduce the amount of business it is doing or might do in the future with or through the Company.

For the avoidance of doubt, if you are an Excluded Service Provider, as described in Section 1(l) below (Grantees in California and Certain Other Jurisdictions), this Section 1(i) applies to you while you are providing services to the Company and does not apply to you during the Restricted Period.

- (j) Tolling. If you violate any of the terms of the Restrictive Covenant obligations articulated herein, the obligation at issue will run from the first date on which you cease to be in violation of such obligation.
 - (k) Successors and Assigns. The Award Agreement (including this Paragraph 1) shall inure to the benefit of the successors and assigns of the Company. The Company may assign this Award Agreement (including this Paragraph 1), without your consent. You may not assign the Award Agreement (or the obligations set forth in this Paragraph 1).
 - (l) Grantees in California and Certain Other Jurisdictions. If you primarily reside and work in California or another jurisdiction that would render, at the time your service with the Company terminates, (i) the non-competition provision in Section 2(h) (Non-Competition), and/or (ii) the non-solicitation or non-interference provisions in Section 2(i) (Non-Solicitation; Non-Interference) unenforceable during the Restricted Period, you will be considered an “Excluded Service Provider.” If you are an Excluded Service Provider, the non-competition restrictions described in Section 2(h) and/or the non-solicitation and non-interference provisions in Section 2(i), as applicable, shall not apply to you during the Restricted Period, except as provided in the next sentence. If you are an Excluded Service Provider, during the Restricted Period, to the fullest extent enforceable by law, you will not directly or indirectly solicit, or attempt to solicit, any employee or consultant of the Company, or any individual who was an employee or consultant of the Company within the six (6) months preceding such solicitation or attempt.
2. Interpretation. All determinations regarding the interpretation, construction, enforcement, waiver, or modification of this Award Agreement and/or the Plan shall be made in the Administrator’s sole discretion and shall be final and binding. Determinations made under this Award Agreement and the Plan need not be uniform and may be made selectively among individuals, whether or not such individuals are similarly situated.
 3. Conflict. If any of the terms of this Award Agreement in the opinion of the Administrator conflict or are inconsistent with any applicable law or regulation of any governmental agency having jurisdiction, the Administrator reserves the right to modify this Award Agreement to be consistent with applicable laws or regulations.
 4. Personal Data. You understand and acknowledge that the Company holds certain personal information about you, including but not limited to your name, home address, telephone number, date of birth, social security number, salary, nationality, job title, and details of all Shares awarded, cancelled, vested, unvested, or outstanding (the “personal data”). Certain personal data may also constitute “sensitive personal data” within the meaning of applicable local law. Such data include but are not limited to the information provided above and any changes thereto and other appropriate personal and financial data about you. You hereby provide explicit consent to the Company to process any such personal data and sensitive personal data. You also hereby provide explicit consent to the Company to transfer any such personal data and sensitive personal data outside the country in which you are employed, and to the United States. The legal persons for whom such personal data are intended are the Company and any third party providing services to the Company in connection with the administration of the Plan.
 5. Plan Documents. By accepting this award, you acknowledge having received and read this Award Agreement and the Plan, and you consent to receiving information and

materials in connection with this Award or any subsequent awards under the Company's long-term performance plans, including without limitation any prospectuses and plan documents, by any means of electronic delivery available now and/or in the future (including without limitation by e-mail, by website access, and/or by facsimile), such consent to remain in effect unless and until revoked in writing by you. This Award Agreement and the Plan, which is incorporated herein by reference, constitute the entire agreement between you and the Company regarding the terms and conditions of this Award.

6. **Jurisdiction; Governing Law.** Any action arising out of or related to this Award Agreement or the Plan shall be brought exclusively in the United States District Court for the Eastern District of Pennsylvania, or in any court of general jurisdiction in Allentown, Pennsylvania; you and the Company consent to personal jurisdiction in any such court and waive any objection to the laying of venue of any such suit, action or proceeding in any such court. This Award Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania without reference to its principles of conflict/choice of law. You and the Company also irrevocably and unconditionally consent to the service of any process, pleadings, notices, or other papers with respect thereto. **YOU AND THE COMPANY IRREVOCABLY AGREE TO WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, CLAIM, OR COUNTERCLAIM BROUGHT BY OR ON BEHALF OF ANY PARTY RELATED TO OR ARISING OUT OF THIS AWARD AGREEMENT.**
7. **Modification; Severability.** If any court of competent jurisdiction finds any provision of this Award Agreement, and particularly the covenants set forth in Paragraph 1, or portion thereof, to not be fully enforceable, it is the intention and desire of the parties that the provision be fully enforced to the extent the court finds them enforceable and, if necessary, that the court modify any provisions of this Award Agreement to the extent deemed necessary by the court to render them reasonable and enforceable and that the court enforce them to such extent. To the extent that such provisions cannot be modified, it is the intention of the parties that the provisions be severable and that the invalidity of any one or more provisions of this Award Agreement shall not affect the legality, validity and enforceability of the remaining provisions of this Award Agreement. If Paragraph 1 is unenforceable in its entirety, then this Award Agreement shall be considered null and void *ab initio*.
8. **Waiver.** The failure of the Company to enforce any terms, provisions or covenants of this Exhibit shall not be construed as a waiver of the same or of the right of the Company to enforce the same. Waiver by the Company of any breach or default by you of any term or provision of the Award Agreement (including these Restrictive Covenants) shall not operate as a waiver of any other breach or default.
9. **No Contract.** None of your FY2023 Restricted Stock Unit Awards, this Award Agreement, nor the Plan constitute a contract of employment; nor do they guarantee your continued employment for any period required for all or any of your Awards to vest or become exercisable.

EXHIBIT B

RESTRICTED STOCK UNITS

Grant of Restricted Stock Units. Restricted Stock Units (“Units”) are granted to you subject to the terms of the Plan, as amended from time to time, and the terms and conditions of this Award Agreement. The Units are “Deferred Stock Units” as described in Section 9 of the Plan. The Deferral Period for Units begins on 1 December 2022 and ends on 1 December 2026.

Payment of Restricted Stock Units. Each Unit granted to you represents the value of one share of Common Stock. Subject to the conditions described in this Award Agreement, payment in respect of the Units will be delivered in shares of Common Stock, cash, or both, as determined by the Administrator or its delegate, in its sole discretion, as soon as administratively practical following the end of the Deferral Period (but in no event later than 60 days thereafter) or at such other time as is specified below.

Dividend Equivalents. No cash dividends or other amounts shall be payable with respect to the Units during the Deferral Period. For each Unit that vests under this Award Agreement, you will be entitled to receive a payment equal to the dividends which would have been paid with respect to a share of Common Stock during the Deferral Period without interest (“Dividend Equivalents”). Such Dividend Equivalents will be paid in cash or shares of Common Stock following the end of the Deferral Period (but in no event later than 60 days thereafter) or at such other time as is specified below.

Termination of Employment. Except as provided below (with respect to a qualifying “Involuntary Termination,” as such term is defined below), if your employment by the Company and all of its affiliates is terminated for any reason prior to 1 December 2023 for any reason other than death or Disability, all of your Units will be automatically forfeited in their entirety. If your employment by the Company and all its affiliates terminates on or after 1 December 2023, but during the Deferral Period, other than due to death, Disability, Retirement or a termination by the Company without Cause, all of your Units will be automatically forfeited in their entirety. For purposes of this Award Agreement, (i) a termination without Cause by the Company during the Deferral Period shall be referred to as an “Involuntary Termination,” and (ii) Cause shall have the meaning set forth in the Plan, provided that if the administrator of the Air Products and Chemicals, Inc. Executive Separation Program (the “Program”) determines that you are eligible for the benefits of the Program, Cause shall have the meaning set forth in the Program.

If your employment by the Company and all its affiliates is terminated during the Deferral Period (including before 1 December 2023), due to death or Disability, you will vest in all of your Units.

If your employment by the Company and all its affiliates is terminated on or after 1 December 2023, but during the Deferral Period, due to Retirement, you will vest in all of your Units.

If your employment is terminated at any time during the Deferral Period (including before 1 December 2023) due to Involuntary Termination and you execute a general release of claims in favor of the Company within 50 days following your termination in a form satisfactory to the Administrator (a “Release”), you will vest in a pro-rata portion of your Units (which portion shall be based on the number of full months you worked during the Deferral Period and the total number of months in the Deferral Period) and all of your remaining Units will be forfeited. If you do not execute a Release, all of your Units will be automatically forfeited in their entirety.

With respect to an Involuntary Termination that also meets the definition of Retirement: (i) if services to the Company are terminated before 1 December 2023, such termination of employment shall be deemed to be, and shall be treated as, an Involuntary Separation for purposes of this Award Agreement; and (ii) if services to the Company are terminated on or after 1 December 2023 and prior to the end of the Deferral Period, such termination of employment shall be deemed to be, and shall be treated as, a Retirement for purposes of this Award Agreement.

In the event of your termination of employment due to Retirement on or after 1 December 2023 and prior to the end of the Deferral Period, payment in respect of the Units due to you and of related Dividend Equivalents shall be made as soon as administratively practical following the end of the Deferral Period (but in no event later than 60 days thereafter).

If your employment by the Company and all its affiliates terminates during the Deferral Period due to Involuntary Termination, payment in respect of Units that have not been forfeited and of related Dividend Equivalents shall be made as soon as administratively practical following your termination (but in no event later than 60 days thereafter).

If your employment by the Company and all its affiliates terminates at any time during the Deferral Period (including before 1 December 2023) due to death or Disability, payment in respect of Units due to you and of related Dividend Equivalents shall be made as soon as practicable following the end of the Deferral Period (but in no event later than 60 days thereafter) to you, or, in the event of death, your Designated Beneficiary or, if none, your legal representative.

Notwithstanding anything to the contrary above, if your employment by the Company and its affiliates is terminated and such termination constitutes a "Termination of Employment" within the meaning of the Program and the administrator of the Program determines you are entitled to the benefits of the Program, your outstanding Awards under this Agreement shall be treated in accordance with the Program.

Recoupment. Notwithstanding anything to the contrary above, any Units and any related Dividend Equivalents paid to you may be recouped by the Company within three years of their payment in the event that: (i) the payment of such Units is predicated upon the achievement of financial results that are subsequently the subject of a restatement; (ii) the Administrator determines in its sole discretion that you engaged in misconduct that caused or partially caused the need for the restatement; and (iii) the Units would not have been paid or a lesser amount of Units would have been paid based upon the restated financial results. In the event of any such recoupment, you shall pay to the Company the amount of any gain realized or payment received as a result of any recouped payment, in such manner and on such terms as may be required, and the Company shall be entitled to reduce any amount owed to you (including by causing the cancellation of any outstanding incentive Award due to you) by the Company by such gain or payment.

Notwithstanding any other provisions of this Award Agreement, in the event the Company is required to prepare an accounting restatement due to its material noncompliance with any financial reporting requirement, the Company may recover from you any amounts or awards which it is required to recover under Section 10D of the Securities Exchange Act of 1934 or any other applicable law or securities exchange listing standard.

Taxes. The Company shall have the right to deduct from all Awards hereunder paid or any payment in respect of an Award, any federal, state, local or foreign taxes required or permitted by law to be withheld. In the case of a payment in respect of Units made in Common Stock, the

Company shall reduce number of the shares of Common Stock to be distributed by an amount with a value equal to the value of such taxes required or permitted to be withheld.

Adjustments. In the event of any change in the outstanding shares of Common Stock of the Company or the occurrence of certain other events as described in Section 12 of the Plan, an equitable adjustment of the number of Units covered by this Award Agreement shall be made as provided in the Plan.

Code section 409A. It is intended that the provisions of this Award Agreement avoid the adverse consequences under section 409A of the Internal Revenue Code (the "Code"), and all provisions of the Award Agreement shall be construed and interpreted in a manner consistent with that intent. The Administrator reserves the right to make amendments to the Award Agreement as the Administrator deems necessary or desirable to avoid the imposition of taxes or penalties under section 409A of the Code. In any case, you shall be solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on you or for your account in connection with an Award (including any taxes and penalties under section 409A of the Code), and neither the Company nor any of its affiliates shall have any obligation to indemnify or otherwise hold you harmless from any or all of such taxes or penalties.

**Air Products and Chemicals, Inc. (the “Company”)
Performance Share Award Agreement**

Company Confidential Communication to: «Participant Name»

You have been granted a Performance Share award under the Air Products and Chemicals, Inc. 2021 Long-Term Incentive Plan (the “Plan”).

Your FY2023 award consists of «Shares Granted» Deferred Stock Units with a three-year performance period, each unit (a “Performance Share”) being equivalent in value to one share of Common Stock.

Your FY2023 Performance Share Award is subject to and contingent upon your agreement to the conditions described in Exhibit A and the terms described in Exhibit B (collectively, the “Conditions”). Please read the Conditions carefully, particularly the descriptions of the “Restrictive Covenants.” This letter, together with its Exhibits, constitutes the agreement governing your FY2023 Performance Share Award (“Award Agreement”). Your FY2023 Performance Share Award is also at all times subject to the applicable provisions of the Plan and to any determinations made by the Administrator or its delegate, with respect to your FY2023 Performance Share Award as contemplated or permitted by the Plan or the Conditions. By accepting this award, you will be deemed to have accepted and agreed to the terms and conditions of the Award Agreement and the Plan.

None of your FY2023 Performance Share Award, this Award Agreement or the Plan constitute a contract of employment; nor do they guarantee your continued employment for any period required for all or any of your FY2023 Performance Share Award to vest, become exercisable, be earned or be paid out. Except as otherwise indicated all capitalized words used in this Award Agreement have the meanings described in the Plan.

WITNESSETH the due execution of this Award Agreement by the Company effective as of the 1st day of December 2022 and your acceptance of the Award Agreement intending to be legally bound hereby.

AIR PRODUCTS AND CHEMICALS, INC.

By:



Seifi Ghasemi

EXHIBIT A

FY2023 AWARDS UNDER THE PLAN ARE SUBJECT TO THE FOLLOWING CONDITIONS:

In the event the Company determines, in its sole discretion, that you have violated the restrictive covenants set forth in Paragraph 1 (the “Restrictive Covenants”), at any time during your employment, or within two years after termination of your employment from the Company, the Company shall be entitled to (i) preliminary and permanent injunctive relief, without the necessity of providing actual damages or posting of a bond, (ii) damages equal to an equitable accounting of all earnings, profits and other benefits arising from such violation of Paragraph 1, (iii) cancel, not deliver, modify, rescind, suspend, withhold, or otherwise limit or restrict any unexpired, unpaid, unexercised or deferred Awards outstanding under the Plan, and (iv) recoup the proceeds from any exercise, payment or delivery of an Award or any shares of Common Stock issued pursuant to an Award. In the event that the Company determines that you are subject to recoupment under these Restrictive Covenants, you shall repay the Company the amount determined by the Company in such manner and on such terms as may be required by the Company, and the Company shall be entitled to set off against the amount due under this provision any amount owed to you by the Company (including by causing the cancellation of any outstanding incentive Award due to you).

1. Restrictive Covenants.

Definitions. For purposes of this Paragraph 1, the following words shall have the following definitions.

“Affiliate” of a specified Person shall mean any Person which is under common control with the specified Person, or of which the specified Person is an executive officer, manager, trustee, executor or similar controlling Person.

“Company” shall include Air Products and Chemicals, Inc. and the subsidiaries and Affiliates of Air Products and Chemicals, Inc.

“Business of the Company” means the production, manufacturing and distribution of industrial gases, including atmospheric and process gases; the designing and manufacturing of equipment for the production, processing, purification distribution or storage of gases or for natural gas liquefaction; and any other line of business conducted, developed or being developed by the Company during your employment with the Company, in each case, in which you are or were involved during the course of your employment with the Company or about which you possess Confidential Information.

“Confidential Information” means any non-public, proprietary confidential or trade secret information of the Company and/or its customers, including but not limited to, business processes, know-how, practices, methods, plans, research, operations, services, strategies, techniques, formulae, manuals, data, notes, diagrams, customer or vendor information, pricing or cost information, product plans, designs, experimental processes and inventions.

“Person” means any natural person, corporation, general partnership, limited partnership, limited liability company or partnership, joint venture, proprietorship or other business organization.

“Provide Services” means to directly or indirectly, own, manage, control, or participate in the ownership, management or control of, or be employed or engaged by, participate in, serve on the board of directors of, consult with, contribute to, hold a security interest in, render services for, give advice to, provide assistance to or be otherwise affiliated or associated with.

“Restricted Area” means any country in which you worked during your employment with the Company, over which you had supervisory responsibility for the Business of the Company while employed by the Company, or with respect to which you have Confidential Information pertaining to the Business of the Company.

Acknowledgment.

You hereby expressly acknowledge and agree that the obligations in this Award Agreement are in addition to, and shall not supersede, the obligations you may have pursuant to other agreements with the Company, including, without limitation, your obligations under your Employee Patent and Confidential Information Agreement that you entered into when you were employed by the Company, which shall continue to apply in accordance with its terms.

You acknowledge and agree that (A) the Business of the Company is intensely competitive and that your employment with the Company has required you to have access to, and knowledge of, Confidential Information, which is of vital importance to the success of the Business of the Company; (B) the use, disclosure or dissemination of any Confidential Information, except on behalf of the Company, could place the Company at a serious competitive disadvantage and could do serious damage, financial and otherwise, to the Business of the Company; and (C) the Company is engaged in business, and has customers, throughout the world.

You further understand and acknowledge that the Company invests in customer relationships and as a result, has developed and will develop considerable goodwill with and among its customers. You agree that the Restrictive Covenants articulated herein are necessary to protect the Company’s legitimate business interests in its Confidential Information and goodwill, and that the Company would not have provided the good and valuable consideration set forth in this Award Agreement in absence of such restrictions. You further understand and acknowledge that the Company will be irreparably harmed if you violate the Restrictive Covenants articulated herein.

Confidential Information. You agree that you have and will at all times hereafter, (A) treat all Confidential Information as strictly confidential; and (B) not directly or indirectly disclose, publish, communicate or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any Person who is not authorized by the Company to know such Confidential Information in the furtherance of the Company’s business.

Non-Disparagement. During your employment by the Company and for two years after your employment with the Company terminates for any reason, you agree not to directly or indirectly make, or cause to be made, any statement, observation or

opinion that disparages or impugns the business or reputation of the Company, its products, services, agents or employees. You understand that this Section 1(d) does not, in any way, restrict or impede me from (i) exercising my rights under Section 7 of the National Labor Relations Act (or any other protected rights) to the extent that such rights cannot be waived by agreement.

Permitted Disclosures. Pursuant to 18 U.S.C. § 1833(b), you understand that you will not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret of the Company that (i) is made (A) in confidence to a Federal, State, or local government official, either directly or indirectly, or to your attorney and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. You understand that if you file a lawsuit for retaliation by the Company for reporting a suspected violation of law, you may disclose the trade secret to your attorney and use the trade secret information in the court proceeding if you (I) file any document containing the trade secret under seal, and (II) do not disclose the trade secret, except pursuant to court order. Nothing in this Award Agreement, or any other agreement you have with the Company, is intended to conflict with 18 U.S.C. § 1833(b) or create liability for disclosures of trade secrets that are expressly allowed by such section. Further, nothing in this Award Agreement or any other agreement you have with the Company shall prohibit or restrict you from making any disclosure of information or documents to any governmental agency or legislative body, or any self-regulatory organization, in each case, without advance notice to the Company.

Return of Company Property. You represent that upon request from the Company at any time and, without request, upon termination of your employment with the Company for any reason, you will deliver to the Company all memoranda, notes, records, manuals, or other documents, including all electronic or other copies of such materials and all documentation prepared or produced in connection therewith, containing Confidential Information, which is in your possession, custody and control, whether made or compiled by you or furnished to you by virtue of your employment with the Company. You further represent that you will deliver to the Company all vehicles, computers, credit cards, telephones, handheld electronic devices, office equipment and other property furnished to you by virtue of your employment with the Company.

Notice. You agree that during your employment with the Company and for two years after your employment with the Company terminates for any reason (the "Restricted Period"), you will give the Company 10 business days' written notice of your intention to Provide Services to any other Person that engages in or is preparing to engage in the Business of the Company within the Restricted Area. Such written notice must provide sufficiently detailed information so as to allow the Company to determine if you will be in breach of this Award Agreement if you Provide Services to such other Person.

Non-Competition. During your employment by the Company and, unless you are an Excluded Service Provider, during the Restricted Period, you agree that you will not Provide Services to any Person, other than the Company, that engages in or is preparing to engage in the Business of the Company within the Restricted Area, unless (i) such other Person also engages in lines of business that are separate, distinct and divisible from the Business of the Company, (ii) you do not Provide Services, Confidential Information or strategy to the Business of the Company

conducted by such other Person, and (iii) you do not attend meetings where the Business of the Company conducted by such other Person is discussed or where you could, even inadvertently, disclose Confidential Information. Your passive ownership of not more than one percent (1%) of the capital stock or other ownership or equity interest, or voting power, in a public company, registered under the Securities Exchange Act of 1934, as amended, shall not be deemed to be a violation of this paragraph. For the avoidance of doubt, if you are an Excluded Service Provider, as described in Section 1(l) below (Grantees in California and Certain Other Jurisdictions), this Section 1(h) applies to you while you are providing services to the Company and does not apply to you during the Restricted Period.

Non-Solicitation; Non-Interference. During your employment by the Company and, unless you are an Excluded Service Provider, during the Restricted Period, you also agree that you will not, directly or indirectly without the prior written consent of the Company:

encourage, persuade, induce, or attempt to encourage or persuade or induce, any person who is an employee at the grade level of 118 or above, an officer, or a director of the Company, in each case, to terminate such relationship with the Company; or hire or engage, participate in the hiring or engagement of, or solicit or make an offer of employment or engagement to any employee at the grade level of 118 or above, officer or director of the Company who was employed or engaged by the Company as of your last day of employment with the Company.

on behalf of any Person engaged in the Business of the Company (other than the Company) solicit, contact, or attempt to solicit or contact any current, former or prospective customer of the Company whom you had contacted within the 24 months prior to your last day of employment with the Company or about whom you have any Confidential Information.

encourage or persuade, or attempt to encourage or persuade any (A) customer of the Company, (B) potential customer of the Company during the last 24 months of your employment with the Company with which or with whom you knew to be such a potential customer, or (C) prior customer of the Company, in each case, not to do business with the Company or to reduce the amount of business it is doing or might do in the future with or through the Company.

For the avoidance of doubt, if you are an Excluded Service Provider, as described in Section 1(l) below (Grantees in California and Certain Other Jurisdictions), this Section 1(i) applies to you while you are providing services to the Company and does not apply to you during the Restricted Period.

Tolling. If you violate any of the terms of the Restrictive Covenant obligations articulated herein, the obligation at issue will run from the first date on which you cease to be in violation of such obligation.

Successors and Assigns. The Award Agreement (including this Paragraph 1) shall inure to the benefit of the successors and assigns of the Company. The Company may assign this Award Agreement (including this Paragraph 1), without your consent. You may not assign the Award Agreement (or the obligations set forth in this Paragraph 1).

Grantees in California and Certain Other Jurisdictions. If you primarily reside and work in California or another jurisdiction that would render, at the time your service with the Company terminates, (i) the non-competition provision in Section 2(h) (Non-Competition), and/or (ii) the non-solicitation or non-interference provisions in Section 2(i) (Non-Solicitation; Non-Interference) unenforceable during the Restricted Period, you will be considered an “Excluded Service Provider.” If you are an Excluded Service Provider, the non-competition restrictions described in Section 2(h) and/or the non-solicitation and non-interference provisions in Section 2(i), as applicable, shall not apply to you during the Restricted Period, except as provided in the next sentence. If you are an Excluded Service Provider, during the Restricted Period, to the fullest extent enforceable by law, you will not directly or indirectly solicit, or attempt to solicit, any employee or consultant of the Company, or any individual who was an employee or consultant of the Company within the six (6) months preceding such solicitation or attempt.

Interpretation. All determinations regarding the interpretation, construction, enforcement, waiver, or modification of this Award Agreement and/or the Plan shall be made in the Administrator’s sole discretion and shall be final and binding. Determinations made under this Award Agreement and the Plan need not be uniform and may be made selectively among individuals, whether or not such individuals are similarly situated.

Conflict. If any of the terms of this Award Agreement in the opinion of the Administrator conflict or are inconsistent with any applicable law or regulation of any governmental agency having jurisdiction, the Administrator reserves the right to modify this Award Agreement to be consistent with applicable laws or regulations.

Personal Data. You understand and acknowledge that the Company holds certain personal information about you, including but not limited to your name, home address, telephone number, date of birth, social security number, salary, nationality, job title, and details of all Shares awarded, cancelled, vested, unvested, or outstanding (the “personal data”). Certain personal data may also constitute “sensitive personal data” within the meaning of applicable local law. Such data include but are not limited to the information provided above and any changes thereto and other appropriate personal and financial data about you. You hereby provide explicit consent to the Company to process any such personal data and sensitive personal data. You also hereby provide explicit consent to the Company to transfer any such personal data and sensitive personal data outside the country in which you are employed, and to the United States. The legal persons for whom such personal data are intended are the Company and any third party providing services to the Company in connection with the administration of the Plan.

Plan Documents. By accepting this award, you acknowledge having received and read this Award Agreement and the Plan, and you consent to receiving information and materials in connection with this Award or any subsequent awards under the Company’s long-term performance plans, including without limitation any prospectuses and plan documents, by any means of electronic delivery available now and/or in the future (including without limitation by e-mail, by website access, and/or by facsimile), such consent to remain in effect unless and until revoked in writing by you. This Award Agreement and the Plan, which is incorporated herein by reference, constitute the entire agreement between you and the Company regarding the terms and conditions of this Award.

Jurisdiction; Governing Law. Any action arising out of or related to this Award Agreement or the Plan shall be brought exclusively in the United States District Court for the Eastern District of Pennsylvania, or in any court of general jurisdiction in Allentown, Pennsylvania; you and the Company consent to personal jurisdiction in any such court

and waive any objection to the laying of venue of any such suit, action or proceeding in any such court. This Award Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania without reference to its principles of conflict/choice of law. You and the Company also irrevocably and unconditionally consent to the service of any process, pleadings, notices, or other papers with respect thereto. YOU AND THE COMPANY IRREVOCABLY AGREE TO WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, CLAIM, OR COUNTERCLAIM BROUGHT BY OR ON BEHALF OF ANY PARTY RELATED TO OR ARISING OUT OF THIS AWARD AGREEMENT.

Modification; Severability. If any court of competent jurisdiction finds any provision of this Award Agreement, and particularly the covenants set forth in Paragraph 1, or portion thereof, to not be fully enforceable, it is the intention and desire of the parties that the provision be fully enforced to the extent the court finds them enforceable and, if necessary, that the court modify any provisions of this Award Agreement to the extent deemed necessary by the court to render them reasonable and enforceable and that the court enforce them to such extent. To the extent that such provisions cannot be modified, it is the intention of the parties that the provisions be severable and that the invalidity of any one or more provisions of this Award Agreement shall not affect the legality, validity and enforceability of the remaining provisions of this Award Agreement. If Paragraph 1 is unenforceable in its entirety, then this Award Agreement shall be considered null and void *ab initio*.

Waiver. The failure of the Company to enforce any terms, provisions or covenants of this Exhibit shall not be construed as a waiver of the same or of the right of the Company to enforce the same. Waiver by the Company of any breach or default by you of any term or provision of the Award Agreement (including these Restrictive Covenants) shall not operate as a waiver of any other breach or default.

No Contract. None of your FY2023 Performance Share Awards, this Award Agreement, nor the Plan constitute a contract of employment; nor do they guarantee your continued employment for any period required for all or any of your Awards to vest or become exercisable.

EXHIBIT B

PERFORMANCE SHARES

Grant of Performance Shares. Performance Shares are granted to you subject to the terms of the Plan, as amended from time to time and the terms and conditions described in this Award Agreement. The Performance Shares are “Deferred Stock Units” as described in Section 9 of the Plan. The Deferral Period begins on 1 December 2022 and ends on 1 December 2025.

Payment of Deferred Stock Units. The Performance Shares granted to you will be earned in accordance with the formula indicated in Attachment I based on Air Products’ relative “Total Shareholder Return” in relation to the “TSR comparator group” (as such terms are defined in Attachment I) over the three fiscal year performance period beginning 1 October 2022 and ending 30 September 2025 (the “Performance Period”). Subject to the conditions described in this Award Agreement, Performance Shares earned and not forfeited (including in the event of your termination of employment during the Deferral Period) shall be paid in shares of Common Stock, cash, or both, as determined by the Administrator or its delegate, in its sole discretion, as soon as administratively practical following the end of the Deferral Period (but in no event later than 60 days thereafter).

Dividends. No cash dividends or other amounts shall be payable with respect to the Performance Shares during the Deferral Period. For each earned Performance Share that vests under this Award Agreement, you will be entitled to receive a payment equal to the dividends which would have been paid with respect to a share of Common Stock during the Deferral Period without interest (“Dividend Equivalents”). Such Dividend Equivalents will be paid in cash or shares of Common Stock following the end of the Deferral Period (but in no event later than 60 days thereafter) or at such other time as is specified below.

Termination of Employment. Except as provided below (with respect to a qualifying “Involuntary Termination” as such term is defined below), if your employment by the Company and all of its affiliates is terminated for any reason prior to 1 December 2023 for any reason other than death or Disability, all of your Performance Shares will be automatically forfeited in their entirety. If your employment by the Company and all its affiliates terminates on or after 1 December 2023, but during the Deferral Period, other than due to death, Disability, Retirement or a termination by the Company without Cause, all of your Performance Shares will be automatically forfeited in their entirety. For purposes of this Award Agreement, (i) a termination without Cause by the Company during the Deferral Period shall be referred to as an “Involuntary Termination,” and (ii) Cause shall have the meaning set forth in the Plan, provided that if the administrator of the Air Products and Chemicals, Inc. Executive Separation Program (the “Program”) determines that you are eligible for the benefits of the Program, Cause shall have the meaning set forth in the Program.

If your employment by the Company and all its affiliates is terminated during the Deferral Period (including before 1 December 2023), due to death or Disability, you will vest in a pro-rata portion of your earned Performance Shares, based on actual financial performance, as determined by the Administrator in its sole discretion, (which portion in each case shall be based on the number of full months you worked during the Performance Period before your termination of employment *divided by 36*) and your remaining Performance Shares will be forfeited.

If your employment by the Company and all its affiliates is terminated on or after 1 December 2023, but during the Deferral Period, due to Retirement, you will vest in a pro-rata portion of your earned Performance Shares, based on actual financial performance, as determined by the

Administrator in its sole discretion, (which portion in each case shall be based on the number of full months you worked during the Performance Period before your termination of employment *divided by* 36) and your remaining Performance Shares will be forfeited.

If your employment is terminated at any time during the Deferral Period (including before 1 December 2023) due to Involuntary Termination and you execute a general release of claims in favor of the Company within 50 days following your termination in a form satisfactory to the Administrator (a "Release"), you will vest in a pro-rata portion of your earned Performance Shares, based on actual financial performance, as determined by the Administrator in its sole discretion, (which portion shall be based on the number of full months you worked during the Performance Period before your termination of employment *divided by* 36) and all of your remaining Performance Shares will be forfeited. If you do not execute a Release, all of your Performance Shares will be automatically forfeited in their entirety.

With respect to an Involuntary Termination that also meets the definition of Retirement: (i) if services to the Company are terminated before 1 December 2023, such termination of employment shall be deemed to be, and shall be treated as, an Involuntary Separation for purposes of this Award Agreement; and (ii) if services to the Company are terminated on or after 1 December 2023 and prior to the end of the Deferral Period, such termination of employment shall be deemed to be, and shall be treated as, a Retirement for purposes of this Award Agreement.

In the event of your termination of employment due to Retirement on or after 1 December 2023 and prior to the end of the Deferral Period, payment in respect of the Performance Shares due to you and of related Dividend Equivalents shall be made as soon as administratively practical following the end of the Deferral Period (but in no event later than 60 days thereafter).

If your employment by the Company and all its affiliates terminates at any time during the Deferral Period due to Involuntary Termination, payment in respect of Performance Shares that have not been forfeited and of related Dividend Equivalents shall be made as soon as administratively practical following the end of the Deferral Period (but in no event later than 60 days thereafter).

If your employment by the Company and all its affiliates terminates at any time during the Deferral Period (including before 1 December 2023) due to death or Disability, payment in respect of earned Performance Shares that have not been forfeited and of related Dividend Equivalents shall be made, as soon as practicable following the end of the Deferral Period (but in no event later than 60 days thereafter), to you, or, in the event of death, your Designated Beneficiary or, if none, your legal representative.

Notwithstanding anything to the contrary above, if your employment by the Company and its affiliates is terminated and such termination constitutes a "Termination of Employment" within the meaning of the Program and the administrator of the Program determines you are entitled to the benefits of the Program, your outstanding Awards under this Agreement shall be treated in accordance with the Program.

Recoupment. Notwithstanding anything to the contrary above, any Performance Shares earned or paid and any related Dividend Equivalents paid to you may be recouped by the Company within three years of their payment in the event that: (i) the earning of such Performance Shares is predicated upon the achievement of financial results that are subsequently the subject of a restatement; (ii) the Administrator determines in its sole discretion that you engaged in misconduct that caused or partially caused the need for the restatement; and (iii) the Performance Shares would not have been earned or a lesser amount of Performance Shares would have been earned based upon the restated financial results. In the event of any such recoupment, you shall

pay to the Company the amount of any gain realized or payment received as a result of any recouped payment, in such manner and on such terms as may be required, and the Company shall be entitled to reduce any amount owed to you (including by causing the cancellation of any outstanding incentive Award due to you) by the Company by such gain or payment.

Notwithstanding any other provisions of this Award Agreement, in the event the Company is required to prepare an accounting restatement due to its material noncompliance with any financial reporting requirement, the Company may recover from you any amounts or awards which it is required to recover under Section 10D of the Securities Exchange Act of 1934 or any other applicable law or securities exchange listing standard.

Taxes. The Company shall have the right to deduct from all Awards hereunder paid or any payment in respect of an Award, any federal, state, local or foreign taxes required or permitted by law to be withheld. In the case of a payment in respect of Performance Shares made in Common Stock, the Company shall reduce number of the shares of Common Stock to be distributed by an amount with a value equal to the value of such taxes required or permitted to be withheld.

Adjustments. In the event of any change in the outstanding shares of Common Stock of the Company or the occurrence of certain other events as described in Section 12 of the Plan, an equitable adjustment of the number of Performance Shares covered by this Award Agreement shall be made as provided in the Plan.

Code section 409A. It is intended that the provisions of this Award Agreement avoid the adverse consequences under section 409A of the Internal Revenue Code (the "Code"), and all provisions of the Award Agreement shall be construed and interpreted in a manner consistent with that intent. The Administrator reserves the right to make amendments to the Award Agreement as the Administrator deems necessary or desirable to avoid the imposition of taxes or penalties under section 409A of the Code. In any case, you shall be solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on you or for your account in connection with an Award (including any taxes and penalties under section 409A of the Code), and neither the Company nor any of its affiliates shall have any obligation to indemnify or otherwise hold you harmless from any or all of such taxes or penalties.

FY2023-2025 Performance Share Payout Schedule

1. Performance Shares Earned. For the avoidance of doubt, capitalized terms that are otherwise not defined in this Attachment will have the same definition as in the Award Agreement. The number of Performance Shares earned will be determined in accordance with the following formula:

$$\frac{(\text{PERFORMANCE SHARES AWARDED}) \times (\text{PAYOUT FACTOR})}{(\text{PERFORMANCE SHARES EARNED})} =$$

2. Payout Factor. The “Payout Factor” is the percentage determined under this Section 2. The Payout Factor is based on the Company’s TSR Percentile Rank among the TSR comparator group for the Performance Period. The “Initial Payout Factor” is determined in accordance with the following schedule:

Company’s TSR Percentile Rank	Initial Payout Factor
≥ 75 th %ile	200%
≥ 50 th %ile	100%
≥ 30 th %ile	30%
< 30 th %ile	0%

The Initial Payout Factor will be interpolated for TSR Percentile Rank between discrete points, from a minimum Initial Payout Factor of 30 percentage points to a maximum Initial Payout Factor of 200 percentage points

The Initial Payout Factor will be increased by 15 percentage points to determine the maximum Payout Factor (the “Maximum Payout Factor”), but in no event will the Maximum Payout Factor exceed 215 percentage points. The Committee, in its discretion, may decrease the Maximum Payout Factor by up to 30 percentage points (*i.e.*, a decrease of 15 percentage points from the Initial Payout Factor) to determine the Payout Factor. The Committee, in its discretion, may adjust the amount of any individual’s payout, but the Payout Factor used for such payout may not exceed the Maximum Payout Factor.

3. Definitions.

“Beginning Price” means, with respect to the Company’s and any other TSR comparator group company’s common stock, the average of the closing sale prices of a share of such common stock on the principal exchange on which such stock is traded for the thirty (30) calendar days preceding the first day of the of the Performance Period.

“Ending Price” means, with respect to the Company’s and any other TSR comparator group company’s common stock, the average of the closing sale prices of a share of such company’s common stock on the principal exchange on which such stock is traded for thirty (30) calendar days ending with the last day of the Performance Period.

The TSR comparator group for purposes of calculating the TSR Percentile Rank, shall be a fixed group of the companies that comprise the S&P 500 index at the beginning of the Performance Period (*i.e.*, 1 October 2022), subject to the modifications described below.

The TSR comparator group will be modified to reflect merger and acquisition activity during the Performance Period. If an S&P 500 constituent is acquired during the Performance Period, they will be removed from the index when calculating the payout. If an S&P 500 constituent has a spin, the RemainCo stays when calculating the payout, and SpinCo will be treated as a dividend. If an S&P 500 constituent goes bankrupt during the Performance Period, the company will remain in the comparator group, ranked at the bottom.

“Total Shareholder Return” or “TSR” shall be the percent increase/decrease in value that would be experienced from purchasing a share of the Company’s or a TSR comparator group company’s common stock at the Beginning Price and holding it for the Performance Period and selling at the Ending Price of such a share, assuming that dividends and other distributions are reinvested in additional shares of such stock at the closing market price on the ex-dividend date. Any non-cash distributions shall be valued at market value that shall be determined by the Committee.

“TSR Rank” means the ranking of the Company’s TSR among the TSRs for the TSR comparator group companies for the Performance Period. TSR Rank is determined by ordering the TSR comparator group companies and the Company from highest to lowest based on TSR for the Performance Period and counting down from the company with the highest TSR (ranked first) to the Company’s position on the list. If two companies are ranked equally, the ranking of the next company shall account for the tie, so that if one company is ranked first, and two companies are tied for second, the next company is ranked fourth. In the event of any ambiguity, the determination of the Committee shall be final and binding.

4. TSR Percentile Rank. The TSR Percentile Rank will be determined as follows:

The n^{th} ranked company out of the N companies (including Air Products) would have the following TSR Percentile Rank

$$\text{TSR Percentile Rank} = \frac{(N - n)}{(N - 1)}$$

That is, if Air Products ranked 5th out of 16 companies, its TSR Percentile Rank would be 73.3% $((16-5)/(16-1))$, which would give an Initial Payout Factor of 193.3%.

PRINCIPAL EXECUTIVE OFFICER'S CERTIFICATION

I, Seifi Ghasemi, certify that:

1. I have reviewed this Quarterly Report of Air Products and Chemicals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 2 February 2023

/s/ Seifi Ghasemi

Seifi Ghasemi

Chairman, President and Chief Executive Officer

PRINCIPAL FINANCIAL OFFICER'S CERTIFICATION

I, Melissa N. Schaeffer, certify that:

1. I have reviewed this Quarterly Report of Air Products and Chemicals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 2 February 2023

/s/ Melissa N. Schaeffer

Melissa N. Schaeffer
Senior Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Air Products and Chemicals, Inc. (the "Company") on Form 10-Q for the period ending 31 December 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Seifi Ghasemi, Chairman, President, and Chief Executive Officer of the Company, and Melissa N. Schaeffer, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: 2 February 2023

/s/ Seifi Ghasemi

Seifi Ghasemi
Chairman, President, and Chief Executive Officer

/s/ Melissa N. Schaeffer

Melissa N. Schaeffer
Senior Vice President and Chief Financial Officer