

**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 **June 30, 2018**

or

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

For the transition period from _____ to _____

Commission file number **1-15399**



(Exact Name of Registrant as Specified in its Charter)

Delaware

*(State or Other Jurisdiction of
Incorporation or Organization)*

1955 West Field Court, Lake Forest, Illinois

(Address of Principal Executive Offices)

36-4277050

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

60045

(Zip Code)

Registrant's telephone number, including area code

(847) 482-3000

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes No

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

As of August 3, 2018 the Registrant had outstanding 94,497,884 shares of common stock, par value \$0.01 per share.

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All reports we file with the Securities and Exchange Commission (SEC) are available free of charge via the Electronic Data Gathering Analysis and Retrieval (EDGAR) System on the SEC website at www.sec.gov. We also provide copies of our SEC filings at no charge upon request and make electronic copies of our reports available through our website at www.packagingcorp.com as soon as reasonably practicable after filing such material with the SEC.

PART I
FINANCIAL INFORMATION

Item 1. FINANCIAL STATEMENTS

Packaging Corporation of America

Consolidated Statements of Income and Comprehensive Income
(unaudited, dollars in millions, except per-share data)

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2018	2017	2018	2017
Statements of Income:				
Net sales	\$ 1,767.5	\$ 1,584.0	\$ 3,458.1	\$ 3,120.5
Cost of sales	(1,346.9)	(1,219.7)	(2,681.4)	(2,418.0)
Gross profit	420.6	364.3	776.7	702.5
Selling, general and administrative expenses	(137.7)	(129.6)	(272.6)	(257.4)
Other expense, net	(13.3)	(0.6)	(21.6)	(7.6)
Income from operations	269.6	234.1	482.5	437.5
Interest expense, net and other	(24.3)	(25.5)	(50.7)	(49.8)
Income before taxes	245.3	208.6	431.8	387.7
Provision for income taxes	(58.7)	(65.4)	(105.1)	(127.1)
Net income	<u>\$ 186.6</u>	<u>\$ 143.2</u>	<u>\$ 326.7</u>	<u>\$ 260.6</u>
Net income per common share:				
Basic	<u>\$ 1.98</u>	<u>\$ 1.52</u>	<u>\$ 3.46</u>	<u>\$ 2.76</u>
Diluted	<u>\$ 1.97</u>	<u>\$ 1.52</u>	<u>\$ 3.46</u>	<u>\$ 2.76</u>
Dividends declared per common share	<u>\$ 0.79</u>	<u>\$ 0.63</u>	<u>\$ 1.42</u>	<u>\$ 1.26</u>
Statements of Comprehensive Income:				
Net income	\$ 186.6	\$ 143.2	\$ 326.7	\$ 260.6
Other comprehensive income, net of tax:				
Foreign currency translation adjustment	—	(0.1)	(0.1)	(0.3)
Reclassification adjustments to cash flow hedges included in net income, net of tax of \$0.3 million, \$0.6 million, \$0.7 million, and \$1.2 million	1.0	0.8	2.0	1.6
Amortization of pension and postretirement plans actuarial loss and prior service cost, net of tax of \$1.0 million, \$1.2 million, \$1.9 million, and \$2.3 million	3.0	2.1	6.0	4.3
Other comprehensive income	4.0	2.8	7.9	5.6
Comprehensive income	<u>\$ 190.6</u>	<u>\$ 146.0</u>	<u>\$ 334.6</u>	<u>\$ 266.2</u>

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Packaging Corporation of America

Consolidated Balance Sheets

(unaudited, dollars and shares in millions, except per-share data)

	June 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 199.6	\$ 216.9
Accounts receivable, net of allowance for doubtful accounts and customer deductions of \$13.0 million and \$12.6 million as of June 30, 2018, and December 31, 2017, respectively	920.0	830.7
Inventories	763.7	762.5
Prepaid expenses and other current assets	56.6	35.5
Federal and state income taxes receivable	16.7	69.5
Total current assets	1,956.6	1,915.1
Property, plant, and equipment, net	3,026.5	2,924.9
Goodwill	888.7	883.2
Other intangible assets, net	384.1	410.0
Other long-term assets	59.7	64.3
Total assets	\$ 6,315.6	\$ 6,197.5
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current maturities of long-term debt	\$ —	\$ 150.0
Capital lease obligations	1.4	1.3
Accounts payable	431.7	402.9
Dividends payable	75.5	60.5
Accrued liabilities	195.7	203.2
Accrued interest	11.5	14.8
Total current liabilities	715.8	832.7
Long-term liabilities:		
Long-term debt	2,482.1	2,480.4
Capital lease obligations	18.3	19.0
Deferred income taxes	272.8	239.5
Compensation and benefits	374.9	372.5
Other long-term liabilities	63.7	70.8
Total long-term liabilities	3,211.8	3,182.2
Commitments and contingent liabilities		
Stockholders' equity:		
Common stock, par value \$0.01 per share, 300.0 million shares authorized, 94.5 million and 94.3 million shares issued as of June 30, 2018, and December 31, 2017, respectively	0.9	0.9
Additional paid in capital	482.1	471.2
Retained earnings	2,054.0	1,867.4
Accumulated other comprehensive loss	(149.0)	(156.9)
Total stockholders' equity	2,388.0	2,182.6
Total liabilities and stockholders' equity	\$ 6,315.6	\$ 6,197.5

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Packaging Corporation of America
Consolidated Statements of Cash Flows
(unaudited, dollars in millions)

	Six Months Ended	
	June 30,	
	2018	2017
Cash Flows from Operating Activities:		
Net income	\$ 326.7	\$ 260.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion, and amortization of intangibles	212.2	186.2
Amortization of deferred financing costs	4.4	4.0
Share-based compensation expense	10.7	10.2
Deferred income tax provision	30.1	3.9
Pension and post-retirement benefits expense, net of contributions	9.0	4.9
Other, net	3.8	0.7
Changes in operating assets and liabilities:		
Increase in assets —		
Accounts receivable	(82.7)	(66.1)
Inventories	(5.7)	(10.8)
Prepaid expenses and other current assets	(19.2)	(20.0)
Increase (decrease) in liabilities —		
Accounts payable	11.0	18.8
Accrued liabilities	(19.7)	(24.1)
Federal and state income taxes payable / receivable	52.9	17.3
Net cash provided by operating activities	533.5	385.6
Cash Flows from Investing Activities:		
Additions to property, plant, and equipment	(273.9)	(139.4)
Additions to other long term assets	(2.7)	(5.5)
Proceeds from disposals	0.5	2.9
Other, net	2.6	1.1
Net cash used for investing activities	(273.5)	(140.9)
Cash Flows from Financing Activities:		
Repayments of debt and capital lease obligations	(150.7)	(33.7)
Common stock dividends paid	(118.9)	(118.8)
Shares withheld to cover employee restricted stock taxes	(7.7)	(10.5)
Net cash used for financing activities	(277.3)	(163.0)
Net (decrease) increase in cash and cash equivalents	(17.3)	81.7
Cash and cash equivalents, beginning of period	216.9	239.3
Cash and cash equivalents, end of period	\$ 199.6	\$ 321.0

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

1. Nature of Operations and Basis of Presentation

Packaging Corporation of America ("we," "us," "our," PCA," or the "Company") was incorporated on January 25, 1999. In April 1999, PCA acquired the containerboard and corrugated packaging products business of Pactiv Corporation (Pactiv), formerly known as Tenneco Packaging, Inc., a wholly owned subsidiary of Tenneco Inc. We are a large diverse manufacturer of both packaging and paper products. We are headquartered in Lake Forest, Illinois and we operate primarily in the United States.

We report our business in three reportable segments: Packaging, Paper, and Corporate and Other. Our Packaging segment produces a wide variety of corrugated packaging products. The Paper segment manufactures and sells a range of papers, including communication-based papers and pressure sensitive papers. During the second quarter of 2018, the Company discontinued the production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill and converted the No. 3 machine to a virgin kraft linerboard machine. Subsequent to the date of conversion, operating results for the Wallula mill are primarily included in the Packaging segment. Corporate and other includes support staff services and related assets and liabilities, transportation assets, and activity related to other ancillary support operations. For more information about our segments, see Note 18 Segment Information.

In these consolidated financial statements, certain amounts in prior periods' consolidated financial statements have been reclassified to conform with the current period presentation.

The consolidated financial statements of PCA as of June 30, 2018 and for the three and six months ended June 30, 2018 and 2017 are unaudited but include all adjustments (consisting only of normal recurring adjustments) that management considers necessary for a fair presentation of such financial statements. The preparation of the consolidated financial statements involves the use of estimates and accruals. Actual results may vary from those estimates. These financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and with Article 10 of Regulation S-X of the Securities and Exchange Commission (SEC). Accordingly, they do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete audited financial statements. Operating results for the three and six months ended June 30, 2018 are not necessarily indicative of the results that may be expected for the year ending December 31, 2018. These consolidated financial statements should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2017.

The consolidated financial statements include the accounts of PCA and its majority-owned subsidiaries after elimination of intercompany balances and transactions.

2. New and Recently Adopted Accounting Standards

Recently Adopted Accounting Standards

Effective January 1, 2018, the Company adopted Accounting Standards Update ("ASU") 2014-09 (Topic 606): *Revenue from Contracts with Customers*. This ASU supersedes the revenue recognition requirements in Topic 605 *Revenue Recognition* (Topic 605) and requires entities to recognize revenue when control of the promised goods or services is transferred to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU requires additional disclosure about the nature, amount, timing, and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and estimates, and changes in those estimates. The Company adopted the standard utilizing the modified retrospective method, in which case the cumulative effect was recognized at the date of initial application on January 1, 2018. The adoption of the standard did not have a material effect on the Company's financial position or results of operations; however, the following adjustment and reclassification of certain costs were made for the three and six months ended June 30, 2018:

- a. The Company ships a portion of its products to customers under consignment agreements. These products do not have an alternative use, and, under the new standard, revenue associated with these products is required to be recognized earlier than under prior revenue recognition standards. Utilizing the modified retrospective method, the cumulative impact of adopting the new standard resulted in an increase of approximately \$1.6 million, net of tax, to opening retained earnings as of January 1, 2018.
- b. The new revenue standard also provides additional clarity concerning contract fulfillment costs, which resulted in certain costs being classified as cost of sales rather than selling, general and administrative expenses beginning January 1, 2018. For the three and six months ended June 30, 2018, this amount totaled \$6.9 million and \$13.1 million, respectively.

See Note 3, Revenue, for more information.

Effective January 1, 2018, the Company adopted ASU 2017-07, *Compensation: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. The guidance in this update requires that an employer disaggregate the service cost component from the other components of net benefit cost. Non-service cost components of net periodic benefit cost are required to be presented in the income statement separately from the service cost component and outside the subtotal of operating income. The update also allows only the service cost component to be eligible for capitalization for internally developed capital projects. The amendments in this update are applied retrospectively for the income statement presentations and prospectively for the capitalization of service costs.

The adoption of this ASU retrospectively resulted in a \$0.3 million and \$0.6 million reclassification between cost of sales and selling, general and administrative expenses (both components of income from operations) and interest expense, net and other (a component outside of income from operations) for the three and six months ended June 30, 2017, respectively.

Effective January 1, 2018, the Company adopted ASU 2017-09 *Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting*, which clarifies what changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. This ASU will be applied prospectively when changes to the terms or conditions of a share-based payment award occur.

Effective January 1, 2018, the Company adopted ASU 2017-01 (Topic 805), *Clarifying the Definition of a Business*, which amends the guidance in ASC 805, "Business Combinations". The ASU changes the definition of a business to assist entities with evaluating when a set of transferred assets and activities is a business. Under the new guidance, an entity first determines whether substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets. If this threshold is met, the set is not a business. If it is not met, the entity then evaluates whether the set meets the requirements that a business include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. The ASU defines an output as "the result of inputs and processes applied to those inputs that provide goods or services to customers, investment income (such as dividends or interest), or other revenues." The ASU will be applied prospectively to any transactions subsequent to adoption.

Effective January 1, 2018, the Company adopted ASU 2016-15 (Topic 230), *Statement of Cash Flows: Classification of Certain Cash Receipts and Cash Payments*. This ASU adds or clarifies guidance on the classification of certain cash receipts and payments in the statement of cash flows. The adoption of this guidance did not have a material impact on the Company's financial condition, results of operations, or cash flows.

New Accounting Standards Not Yet Adopted

In February 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-02 (Topic 220): *Income Statement – Reporting Comprehensive Income – Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows for optional reclassification from accumulated other comprehensive income to retained earnings for the stranded tax effects resulting from the enactment of H.R.1 (P.L. 115-97), originally known as the "Tax Cuts and Jobs Act," in December 2017. An entity that elects to reclassify these amounts must reclassify stranded tax effects related to the change in federal tax rate for all items accounted for in other comprehensive income (e.g., pension and postretirement benefits and cash flow hedges). Entities may also elect to reclassify other stranded tax effects that relate to the Act but do not directly relate to the change in the federal tax rate (e.g., state taxes). Upon adoption of ASU 2018-02, entities are required to disclose their policy for releasing the income tax effects from accumulated other comprehensive income. ASU 2018-02 is effective for annual periods beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted. The Company does not expect this ASU to have a material impact on the Company's financial position, results of operations, or cash flow.

In February 2016, the FASB issued ASU 2016-02 (Topic 842): *Leases*. This ASU amends a number of aspects of lease accounting, including requiring lessees to recognize operating leases with a term greater than one year on their balance sheet as a right-of-use asset and corresponding lease liability, measured at the present value of the lease payments. This ASU is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption is permitted. This ASU is required to be adopted using a modified retrospective approach. We are in the process of implementing changes to our systems and processes in conjunction with our review of existing lease agreements. We will adopt Topic 842 effective January 1, 2019 and expect to elect certain available transitional practical expedients. We are still in the process of determining the effects on our financial statements but do expect to recognize a liability and corresponding asset associated with in-scope operating leases.

There were no other accounting standards recently issued that had or are expected to have a material impact on our financial position or results of operations.

3. Revenue

Revenue Recognition

Revenue is recognized when control of the promised goods or services is transferred to customers in an amount that reflects the consideration expected to be entitled in exchange for those goods or services. Sales, value added, and other taxes collected concurrently with revenue-producing activities are excluded from revenue.

The following table presents our revenues disaggregated by product line (dollars in millions):

	Three Months Ended June 30		Six Months Ended June 30,	
	2018	2017 (a)	2018	2017 (a)
Packaging	\$ 1,496.2	\$ 1,311.5	\$ 2,899.1	\$ 2,568.4
Paper	250.8	253.7	520.2	512.9
Corporate and other	20.5	18.8	38.8	39.2
Total revenue	<u>\$ 1,767.5</u>	<u>\$ 1,584.0</u>	<u>\$ 3,458.1</u>	<u>\$ 3,120.5</u>

(a) Prior periods have not been adjusted under the modified retrospective method for Topic 606.

Packaging Revenue

Our containerboard mills produce linerboard and semi-chemical corrugating medium which are papers primarily used in the production of corrugated products. The majority of our containerboard production is used internally by our corrugated products manufacturing facilities. The remaining containerboard is sold to outside domestic and export customers. Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products and retail merchandise displays. We sell corrugated products to national, regional and local accounts, which are broadly diversified across industries and geographic locations.

The Company recognizes revenue for its packaging products when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time. Based on our express terms and conditions of the sale of products to our customers, as well as terms included in contractual arrangements with our customers, we do not have an enforceable right of payment that includes a reasonable profit throughout the duration of the contract for products that do not have an alternative use. Revenue is recognized when the product is shipped from the mill or from our manufacturing facility to our customer. Certain customers may receive volume-based incentives, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenue recognized.

Certain customers receive a portion of their packaging products as consigned inventory with billing triggered once the customer uses or consumes the designated product. Prior to invoicing, these amounts are handled as unbilled receivables. Total unbilled receivables, which are immaterial in amount, are included in the accounts receivable financial statement caption.

Paper Revenue

We manufacture and sell a range of white papers, including communication papers and pressure sensitive papers. Communication papers consist of cut-size office papers, and printing and converting papers. Pressure sensitive papers, including release liners, are used for specialty applications such as consumer and commercial product labels.

The Company recognizes revenue for its paper products when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time. Revenue is recognized when the product is shipped from the mill or from our manufacturing facility or distribution center to our customer. Certain customers may receive volume-based incentives, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenue recognized.

Corporate and Other Revenue

Revenue in this segment primarily relates to Louisiana Timber Procurement Company, L.L.C. (LTP), a variable-interest entity that is 50% owned by PCA and 50% owned by Boise Cascade Company (Boise Cascade). PCA is the primary beneficiary of LTP and has the power to direct the activities that most significantly affect the economic performance of LTP. Therefore, we consolidate 100% of LTP in our financial statements. See Note 17, Transactions With Related Parties, for more information related to LTP.

The Company recognizes revenue within this segment when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time.

Practical Expedients and Exemption

Shipping and handling fees billed to a customer are recorded on a gross basis in "Net sales" with the corresponding shipping and handling costs included in "Cost of sales" in the concurrent period as the revenue is recorded. We expense sales commissions when incurred because the amortization period is one year or less. Sales commissions are recorded in "Selling, general, and administrative expenses".

We do not disclose the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less.

4. Acquisitions

Sacramento Container Acquisition

On October 2, 2017, PCA acquired substantially all of the assets of Sacramento Container Corporation, and 100% of the membership interests of Northern Sheets, LLC and Central California Sheets, LLC (collectively referred to as "Sacramento Container") for a purchase price of \$274 million, including working capital adjustments. Funding for the \$274 million purchase price came from available cash on hand. Assets acquired include full-line corrugated products and sheet feeder operations in both McClellan, California and Kingsburg, California. Sacramento Container provides packaging solutions to customers serving portions of California's strong agricultural market. Sacramento Container's financial results are included in the Packaging segment from the date of acquisition.

The Company accounted for the Sacramento Container acquisition using the acquisition method of accounting in accordance with ASC 805, *Business Combinations*. The total purchase price has been allocated to tangible and intangible assets acquired and liabilities assumed based on respective fair values, as follows (dollars in millions):

	12/31/2017 Allocation	Adjustments	Revised Allocation
Goodwill	\$ 151.1	\$ 5.5	\$ 156.6
Other intangible assets	72.6	(5.5)	67.1
Property, plant and equipment	26.7	—	26.7
Other net assets	23.4	—	23.4
Net assets acquired	<u>\$ 273.8</u>	<u>\$ —</u>	<u>\$ 273.8</u>

During the second quarter of 2018, we made a \$5.5 million net adjustment based on the final valuation of the intangible assets. We recorded the adjustment as a decrease to other intangible assets with an offset to goodwill. The purchase price allocation presented above is preliminary and is subject to finalization of working capital adjustments. Our current estimates and assumptions may change as more information becomes available. We expect to finalize the allocations within the 12-month period following the acquisition date.

Goodwill is calculated as the excess of the purchase price over the fair value of the net assets acquired. Among the factors that contributed to the recognition of goodwill were Sacramento Container's commitment to continuous improvement and regional synergies, as well as the expected increases in PCA's containerboard integration levels. Goodwill is deductible for tax purposes.

Other intangible assets, primarily customer relationships, were assigned an estimated weighted average useful life of 9.6 years.

Property, plant, and equipment were assigned estimated useful lives ranging from one to 13 years.

5. Earnings Per Share

The following table sets forth the computation of basic and diluted income per common share for the periods presented (dollars and shares in millions, except per share data):

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2018	2017	2018	2017
Numerator:				
Net income	\$ 186.6	\$ 143.2	\$ 326.7	\$ 260.6
Less: distributed and undistributed earnings allocated to participating securities	(1.4)	(1.2)	(2.5)	(2.3)
Net income attributable to common shareholders	<u>\$ 185.2</u>	<u>\$ 142.0</u>	<u>\$ 324.2</u>	<u>\$ 258.3</u>
Denominator:				
Weighted average basic common shares outstanding	93.6	93.4	93.6	93.4
Effect of dilutive securities	0.2	0.2	0.2	0.2
Weighted average diluted common shares outstanding	<u>93.8</u>	<u>93.6</u>	<u>93.8</u>	<u>93.6</u>
Basic income per common share	\$ 1.98	\$ 1.52	\$ 3.46	\$ 2.76
Diluted income per common share	<u>\$ 1.97</u>	<u>\$ 1.52</u>	<u>\$ 3.46</u>	<u>\$ 2.76</u>

6. Other Income (Expense), Net

The components of other income (expense), net, were as follows (dollars in millions):

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2018	2017	2018	2017
Asset disposals and write-offs	\$ (4.1)	\$ (2.4)	\$ (9.2)	\$ (4.7)
Wallula mill restructuring (a)	(7.2)	—	(7.9)	—
Facilities closure, integration-related, and other costs (b)	—	(0.5)	(0.1)	(1.3)
DeRidder mill incident (c)	—	2.5	—	(2.5)
Hexacomb working capital adjustment (d)	—	—	—	2.3
Other	(2.0)	(0.2)	(4.4)	(1.4)
Total	<u>\$ (13.3)</u>	<u>\$ (0.6)</u>	<u>\$ (21.6)</u>	<u>\$ (7.6)</u>

(a) Includes charges related to the discontinuation of production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill in the second quarter of 2018 and the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

- (b) For 2018, includes charges consisting of closure costs related to corrugated products facilities. For 2017, includes charges consisting of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and costs related to a lump sum settlement payment of a multiemployer pension plan for one of our corrugated products facilities.
- (c) Includes costs for the property damage and business interruption insurance deductible corresponding to the February 2017 explosion at our DeRidder, Louisiana mill.
- (d) Includes income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

7. Income Taxes

On December 22, 2017, the President signed into law H.R.1 (P.L. 115-97), originally known as the “Tax Cuts and Jobs Act” (the “Tax Act”). The Tax Act significantly revises the U.S. tax code by, among other items, reducing the federal corporate tax rate from 35% to 21%, providing for the full expensing of certain depreciable property, eliminating the corporate alternative minimum tax, limiting the deductibility of interest expense, further limiting the deductibility of certain executive compensation, limiting the use of net operating loss carryforwards created in tax years beginning after December 31, 2017, and implementing a territorial tax system imposing a deemed repatriation transition tax (“Transition Tax”) on earnings of foreign subsidiaries.

The SEC staff issued Staff Accounting Bulletin (“SAB”) 118, *Income Tax Accounting Implications of the Tax Cuts and Jobs Act*, which provides guidance on accounting for the effects and includes a measurement period that ends when a company has obtained, prepared, and analyzed the information necessary to finalize its accounting of the Tax Act, which cannot extend beyond one year. In accordance with SAB 118, the Company recorded provisional estimates of the income tax effects of the Tax Act in our 2017 Form 10-K.

During the three and six months ended June 30, 2018, we have not recorded any measurement period adjustments to the provisional estimates recorded at December 31, 2017. Final accounting for the income tax effects of the Tax Act will occur after the completion of our 2017 federal and state income tax returns in the fourth quarter of 2018.

For the three months ended June 30, 2018 and 2017, we recorded \$58.7 million and \$65.4 million of income tax expense and had an effective tax rate of 23.9% and 31.4%, respectively. For the six months ended June 30, 2018 and 2017, we recorded \$105.1 million and \$127.1 million of income tax expense and had an effective tax rate of 24.3% and 32.8%, respectively. The decrease in our effective tax rate for both the three and six months ended June 30, 2018 compared with the same periods in 2017 was primarily due to federal tax reform (P.L. 115-97), which included a reduction in the federal tax rate of 14.0% offset by the loss of the Domestic Production Activities Deduction benefit of about 3.2% and a reduction in the federal benefit of state tax deductions of about 0.8%, as well as lower excess tax benefits from employee share-based payment awards under ASU 2016-09 in 2018 compared to the same periods in 2017.

Our effective tax rate may differ from the federal statutory income tax rate of 21.0% due primarily to the effect of state and local income taxes. During the six months ended June 30, 2018 and 2017, cash paid for taxes, net of refunds received, was \$22.2 million and \$105.7 million, respectively. The decrease in cash tax payments between the periods is primarily due to a federal overpayment carryforward from the 2017 tax year into the 2018 year as a result of tax reform related changes.

During the three and six months ended June 30, 2018, there were no significant changes to our uncertain tax positions. For more information, see Note 6, Income Taxes, of the Notes to Consolidated Financial Statements in “Part II, Item 8. Financial Statements and Supplementary Data” of our 2017 Annual Report on Form 10-K.

8. Inventories

We value our raw materials, work in process, and finished goods inventories using lower of cost, as determined by the average cost method, or market. Supplies and materials are valued at the first-in, first-out (FIFO) or average cost methods.

The components of inventories were as follows (dollars in millions):

	June 30, 2018	December 31, 2017
Raw materials	\$ 291.7	\$ 279.8
Work in process	15.1	12.6
Finished goods	197.6	217.0
Supplies and materials	259.3	253.1
Inventories	<u>\$ 763.7</u>	<u>\$ 762.5</u>

9. Property, Plant, and Equipment

The components of property, plant, and equipment were as follows (dollars in millions):

	June 30, 2018	December 31, 2017
Land and land improvements	\$ 159.7	\$ 156.0
Buildings	735.8	729.8
Machinery and equipment	5,364.0	5,162.5
Construction in progress	209.8	194.5
Other	71.6	68.4
Property, plant and equipment, at cost	6,540.9	6,311.2
Less accumulated depreciation	(3,514.4)	(3,386.3)
Property, plant, and equipment, net	<u>\$ 3,026.5</u>	<u>\$ 2,924.9</u>

Depreciation expense for the three months ended June 30, 2018 and 2017 was \$91.6 million and \$83.6 million, respectively. During the six months ended June 30, 2018 and 2017, depreciation expense was \$186.2 million and \$166.0 million, respectively. We recognized \$13.5 million of incremental depreciation expense during the six months ended June 30, 2018 as a result of shortening the useful lives of certain assets related to the Wallula mill restructuring and a corporate administration facility.

At June 30, 2018 and December 31, 2017, purchases of property, plant, and equipment included in accounts payable were \$47.6 million and \$29.8 million, respectively.

10. Goodwill and Intangible Assets

Goodwill

Goodwill represents the excess of the cost of an acquired business over the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in a business combination. At June 30, 2018 and December 31, 2017 we had \$833.5 million and \$828.0 million of goodwill recorded in our Packaging segment, respectively. At both June 30, 2018 and December 31, 2017, we had \$55.2 million of goodwill recorded in our Paper segment.

Changes in the carrying amount of our goodwill are as follows (dollars in millions):

	Goodwill
Balance at January 1, 2018	\$ 883.2
Acquisitions (a)	5.5
Balance at June 30, 2018	<u>\$ 888.7</u>

- (a) During the three months ended June 30, 2018, the Company recorded a \$5.5 million adjustment to increase the goodwill balance for the Company's October 2017 acquisition of Sacramento Container.

Intangible Assets

Intangible assets are primarily comprised of customer relationships and trademarks and trade names.

The weighted average remaining useful life, gross carrying amount, and accumulated amortization of our intangible assets were as follows (dollars in millions):

	June 30, 2018			December 31, 2017		
	Weighted Average Remaining Useful Life (in Years)	Gross Carrying Amount	Accumulated Amortization	Weighted Average Remaining Useful Life (in Years)	Gross Carrying Amount	Accumulated Amortization
Customer relationships (a)	11.4	\$ 491.4	\$ 126.9	11.8	\$ 497.8	\$ 109.8
Trademarks and trade names (a)	10.0	33.9	16.2	9.8	32.9	13.2
Other (a)	3.3	4.3	2.4	3.6	4.3	2.0
Total intangible assets (excluding goodwill)	11.3	<u>\$ 529.6</u>	<u>\$ 145.5</u>	11.7	<u>\$ 535.0</u>	<u>\$ 125.0</u>

- (a) In connection with the October 2017 acquisition of Sacramento Container, the Company recorded intangible assets of \$68.4 million for customer relationships, \$4.1 million for trade names, and \$0.1 million for other intangibles. During the three months ended June 30, 2018, the Company made a \$5.5 million net adjustment based on the final valuation received for the intangible assets. This adjustment resulted in a

revision to the original allocations for customer relationships and trade names. As of June 30, 2018, the revised allocations for customers and trade names are \$61.9 million and \$5.1 million, respectively.

During the six months ended June 30, 2018 and 2017, amortization expense was \$20.5 million and \$16.9 million, respectively.

11. Accrued Liabilities

The components of accrued liabilities were as follows (dollars in millions):

	June 30, 2018	December 31, 2017
Compensation and benefits	\$ 109.4	\$ 127.5
Medical insurance and workers' compensation	26.6	23.9
Customer volume discounts and rebates	18.7	23.4
Franchise, property, sales and use taxes	18.4	16.0
Environmental liabilities and asset retirement obligations	4.4	4.0
Severance, retention, and relocation	3.9	3.1
Other	14.3	5.3
Total	<u>\$ 195.7</u>	<u>\$ 203.2</u>

12. Debt

At June 30, 2018 and December 31, 2017, our long-term debt and interest rates on that debt were as follows (dollars in millions):

	June 30, 2018		December 31, 2017	
	Amount	Interest Rate	Amount	Interest Rate
6.50% Senior Notes due March 2018	\$ —	—%	\$ 150.0	6.50%
2.45% Senior Notes, net of discount of \$0.4 million and \$0.5 million as of June 30, 2018 and December 31, 2017, respectively, due December 2020	499.6	2.45%	499.5	2.45%
3.90% Senior Notes, net of discount of \$0.1 million and \$0.2 million as of June 30, 2018 and December 31, 2017, respectively, due June 2022	399.9	3.90%	399.8	3.90%
4.50% Senior Notes, net of discount of \$1.1 million and \$1.2 million as of June 30, 2018 and December 31, 2017, respectively, due November 2023	698.9	4.50%	698.8	4.50%
3.65% Senior Notes, net of discount of \$0.8 million as of June 30, 2018 and December 31, 2017, due September 2024	399.2	3.65%	399.2	3.65%
3.40% Senior Notes, net of discount of \$1.6 million as of June 30, 2018 and December 31, 2017, due December 2027	498.4	3.40%	498.4	3.40%
Total	<u>2,496.0</u>	<u>3.64%</u>	<u>2,645.7</u>	<u>3.80%</u>
Less current portion	—	—%	150.0	6.50%
Less unamortized debt issuance costs	13.9		15.3	
Total long-term debt	<u>\$ 2,482.1</u>	<u>3.64%</u>	<u>\$ 2,480.4</u>	<u>3.64%</u>

During the six months ended June 30, 2018, we used cash on hand to repay debt outstanding of \$150.0 million under the 6.50% Senior Notes due March 2018. For the six months ended June 30, 2018 and 2017, cash payments for interest were \$51.1 million and \$48.1 million, respectively.

Included in interest expense, net and other, are amortization of treasury lock settlements and amortization of financing costs. For the three months ended June 30, 2018 and 2017, amortization of treasury lock settlements was \$1.3 million and \$1.4 million, respectively, and for the six months ended June 30, 2018 and 2017, amortization of treasury locks was \$2.7 million and \$2.8 million, respectively. For the three months ended June 30, 2018 and 2017, amortization of financing costs was \$0.7 million and \$0.5 million, respectively, and during the six months ended June 30, 2018 and 2017, amortization of financing costs was \$1.3 million and \$1.0 million, respectively.

At June 30, 2018, we had \$2,496.0 million of fixed-rate senior notes outstanding. The fair value of our fixed-rate debt was estimated to be \$2,487.1 million. The difference between the book value and fair value is due to the difference between the period-end market interest rate and the stated rate of our fixed-rate debt. We estimated the fair value of our fixed-rate debt using quoted market prices (Level 2 inputs) within the fair value hierarchy, which is further defined in Note 2, Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2017 Annual Report on Form 10-K.

For more information on our long-term debt and interest rates on that debt, see Note 9, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2017 Annual Report on Form 10-K.

13. Employee Benefit Plans and Other Postretirement Benefits

The components of net periodic benefit cost for our pension plans were as follows (dollars in millions):

	Pension Plans			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Service cost	\$ 6.2	\$ 6.1	\$ 12.4	\$ 12.2
Interest cost	10.6	10.4	21.3	20.8
Expected return on plan assets	(14.2)	(13.5)	(28.3)	(27.0)
Net amortization of unrecognized amounts				
Prior service cost	1.8	1.5	3.4	3.0
Actuarial loss	2.3	1.9	4.6	3.7
Net periodic benefit cost	\$ 6.7	\$ 6.4	\$ 13.4	\$ 12.7

PCA makes pension plan contributions that are sufficient to fund its actuarially determined costs, generally equal to the minimum amounts required by the Employee Retirement Income Security Act (ERISA). From time to time, PCA may make additional discretionary contributions based on the funded status of the plans, tax deductibility, income from operations, and other factors. During the three and six months ended June 30, 2018 and 2017, payments to our nonqualified pension plans were insignificant. For the three and six months ended June 30, 2018, we made contributions of \$1.0 million and \$3.2 million, respectively, to our qualified pension plans. We made contributions of \$2.2 million and \$5.9 million to our qualified plans during the three and six months ended June 30, 2017, respectively. We expect to contribute at least the estimated required minimum contributions to our qualified pension plans of approximately \$4.6 million in 2018.

The components of net periodic benefit cost for our postretirement plans were as follows (dollars in millions):

	Postretirement Plans			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Service cost	\$ 0.1	\$ 0.1	\$ 0.2	\$ 0.2
Interest cost	0.1	0.2	0.2	0.3
Net amortization of unrecognized amounts				
Prior service cost	(0.1)	(0.1)	(0.1)	(0.1)
Net periodic benefit cost	\$ 0.1	\$ 0.2	\$ 0.3	\$ 0.4

14. Share-Based Compensation

The Company has a long-term equity incentive plan, which allows for grants of restricted stock, performance awards, stock appreciation rights, and stock options to directors, officers, and employees, as well as others who engage in services for PCA. The plan, as amended, terminates May 1, 2023 and authorizes 10.6 million shares of common stock for grant over the life of the plan. As of June 30, 2018, 0.7 million shares were available for future grants under the plan. Forfeitures are added back to the pool of shares of common stock available to be granted at a future date.

The following table presents restricted stock and performance unit award activity for the six months ended June 30, 2018:

	Restricted Stock		Performance Units	
	Shares	Weighted Average Grant-Date Fair Value	Shares	Weighted Average Grant-Date Fair Value
Outstanding at January 1, 2018	739,732	\$ 77.23	226,558	\$ 77.07
Granted	173,144	114.63	87,022	115.33
Vested	(159,316)	67.25	(46,876)	74.46
Forfeitures	(2,761)	80.10	—	—
Outstanding at June 30, 2018	750,799	\$ 87.96	266,704	\$ 90.01

Compensation Expense

Our share-based compensation expense is recorded in "Selling, general, and administrative expenses." Compensation expense for share-based awards recognized in the Consolidated Statements of Income, net of forfeitures, was as follows (dollars in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Restricted stock	\$ 5.0	\$ 4.1	\$ 8.9	\$ 7.5
Performance units	0.6	1.5	1.8	2.7
Total share-based compensation expense	5.6	5.6	10.7	10.2
Income tax benefit	(1.4)	(2.1)	(2.7)	(3.9)
Share-based compensation expense, net of tax benefit	\$ 4.2	\$ 3.5	\$ 8.0	\$ 6.3

The fair value of restricted stock is determined based on the closing price of the Company's stock on the grant date. Compensation expense, net of estimated forfeitures, is recorded over the requisite service period. As PCA's Board of Directors has the ability to accelerate the vesting of these awards upon an employee's retirement, the Company accelerates the recognition of compensation expense for certain employees approaching normal retirement age.

Performance unit awards are earned based on the achievement of defined performance rankings of Return on Invested Capital (ROIC) or Total Shareholder Return (TSR) compared to ROIC and TSR for peer companies. Awards are weighted 50% for ROIC and 50% for TSR. The ROIC component of performance unit awards are valued based on the closing price of the stock on the grant date. As the ROIC component contains a performance condition, compensation expense, net of estimated forfeitures, is recorded over the requisite service period based on the most probable number of awards expected to vest. The TSR component of performance unit awards is valued using a Monte Carlo simulation as the TSR component contains a market condition. The Monte Carlo simulation estimates the fair value of the TSR component based on the expected term of the award, a risk-free interest rate, expected dividends, and expected volatility of the Company's common stock and the common stock of the peer companies. Compensation expense is recorded ratably over the expected term of the award.

The unrecognized compensation expense for all share-based awards at June 30, 2018 was as follows (dollars in millions):

	June 30, 2018	
	Unrecognized Compensation Expense	Remaining Weighted Average Recognition Period (in years)
Restricted stock	\$ 41.4	2.7
Performance units	17.3	3.0
Total unrecognized share-based compensation expense	\$ 58.7	2.8

15. Stockholders' Equity

Dividends

During the six months ended June 30, 2018, we paid \$118.9 million of dividends to shareholders. On May 15, 2018, PCA announced an increase of its quarterly cash dividend on its common stock from an annual payout of \$2.52 per share to \$3.16 per share. Also, on May 15, 2018, PCA's Board of Directors declared a regular quarterly cash dividend of \$0.79 per share of common stock, which was paid on July 13, 2018 to shareholders of record as of June 15, 2018. The dividend payment was \$74.5 million.

Repurchases of Common Stock

On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of \$200.0 million of the Company's outstanding common stock. Repurchases may be made from time to time in open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the Company in its discretion based on factors such as PCA's stock price and market and business conditions.

The Company did not repurchase any shares of its common stock under this authority during the three and six months ended June 30, 2018. At June 30, 2018, \$193.0 million of the authorized amount remained available for repurchase of the Company's common stock.

Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss) (AOCI) by component were as follows (dollars in millions). Amounts in parentheses indicate losses:

	Foreign Currency Translation Adjustments	Unrealized Loss On Treasury Locks, Net	Unrealized Loss on Foreign Exchange Contracts	Unfunded Employee Benefit Obligations	Total
Balance at January 1, 2018	\$ (0.3)	\$ (14.2)	\$ (0.3)	\$ (142.1)	\$ (156.9)
Amounts reclassified from AOCI, net of tax	(0.1)	2.0	—	6.0	7.9
Balance at June 30, 2018	\$ (0.4)	\$ (12.2)	\$ (0.3)	\$ (136.1)	\$ (149.0)

Reclassifications out of AOCI were as follows (dollars in millions). Amounts in parentheses indicate expenses in the Consolidated Statements of Income:

Details about AOCI Components	Amounts Reclassified from AOCI				
	Three Months Ended June 30,		Six Months Ended June 30,		
	2018	2017	2018	2017	
Unrealized loss on treasury locks, net (a)	\$ (1.3)	\$ (1.4)	\$ (2.7)	\$ (2.8)	See (a) below
	0.3	0.6	0.7	1.2	Tax benefit
	\$ (1.0)	\$ (0.8)	\$ (2.0)	\$ (1.6)	Net of tax
Unfunded employee benefit obligations (b)					
Amortization of prior service costs	\$ (1.7)	\$ (1.4)	\$ (3.3)	\$ (2.9)	See (b) below
Amortization of actuarial gains / (losses)	(2.3)	(1.9)	(4.6)	(3.7)	See (b) below
	(4.0)	(3.3)	(7.9)	(6.6)	Total before tax
	1.0	1.2	1.9	2.3	Tax benefit
	\$ (3.0)	\$ (2.1)	\$ (6.0)	\$ (4.3)	Net of tax

- (a) This AOCI component is included in interest expense, net. Amount relates to the amortization of the effective portion of treasury lock derivative instruments recorded in AOCI. The net amount of settlement gains or losses on derivative instruments included in AOCI to be amortized over the next 12 months is a net loss of \$5.2 million (\$3.9 million after tax). For a discussion of treasury lock derivative instrument activity, see Note 13, Derivative Instruments and Hedging Activities, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2017 Annual Report on Form 10-K.
- (b) These AOCI components are included in the computation of net pension and postretirement benefit costs. See Note 13, Employee Benefit Plans and Other Postretirement Benefits, for additional information.

16. Concentrations of Risk

Our Paper segment has a long-standing commercial and contractual relationship with Office Depot, our largest customer in the paper business. This relationship exposes us to a significant concentration of business and financial risk. Our sales to Office Depot represent approximately 7% of our total Company sales revenue for both the six month periods ended June 30, 2018 and 2017, and approximately 45% and 44% of our Paper segment sales revenue for both of those periods, respectively. At June 30, 2018 and December 31, 2017, we had \$68.8 million and \$33.3 million of accounts receivable due from Office Depot, which represents 7% and 4% of our total Company accounts receivable for both of those periods, respectively. The increase in accounts receivable corresponds to a negotiated extension of credit terms effective during the first quarter of 2018.

For full year 2017, sales to Office Depot represented 43% of our Paper segment sales. If these sales are reduced, we would need to find new customers. We may not be able to fully replace any lost sales, and any new sales may be at lower prices or higher costs. Any significant deterioration in the financial condition of Office Depot affecting its ability to pay or any other change that affects its willingness to purchase our products will harm our business and results of operations.

17. Transactions With Related Parties

Louisiana Timber Procurement Company, L.L.C. (LTP) is a variable-interest entity that is 50% owned by PCA and 50% owned by Boise Cascade Company (Boise Cascade). LTP procures sawtimber, pulpwood, residual chips, and other residual wood fiber to meet the wood and fiber requirements of PCA and Boise Cascade in Louisiana. PCA is the primary beneficiary of LTP and has the power to direct the activities that most significantly affect the economic performance of LTP. Therefore, we consolidate 100% of LTP in our financial statements in our Corporate and Other segment. The carrying amounts of LTP's assets and liabilities (which relate primarily to non-inventory working capital items) on our Consolidated Balance Sheets were \$4.1 million at June 30, 2018 and \$3.0 million at December 31, 2017. During the three months ended June 30, 2018 and 2017, we recorded \$22.6 million and \$21.7 million, respectively, and during the six months ended June 30, 2018 and 2017 we recorded \$43.0 million and

\$45.2 million, respectively, of LTP sales to Boise Cascade in "Net Sales" in the Consolidated Statements of Income and approximately the same amount of expenses in "Cost of Sales".

During the three months ended June 30, 2018 and 2017, fiber purchases from related parties were \$4.7 million and \$4.6 million, respectively. Fiber purchases from related parties were \$8.7 million and \$9.6 million, respectively, during the six months ended June 30, 2018 and 2017. Most of these purchases related to chip and log purchases by LTP from Boise Cascade's wood products business. These purchases are recorded in "Cost of Sales" in the Consolidated Statements of Income.

18. Segment Information

We report our business in three reportable segments: Packaging, Paper, and Corporate and Other. These segments represent distinct businesses that are managed separately because of differing products and services. Each of these businesses requires distinct operating and marketing strategies.

During the second quarter of 2018, the Company discontinued the production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill and converted the No. 3 machine to a virgin kraft linerboard machine. Subsequent to the date of conversion, operating results for the Wallula mill are primarily included in the Packaging segment.

Each segment's profits and losses are measured on operating profits before interest expense, net and income taxes. For certain allocated expenses, the related assets and liabilities remain in the Corporate and Other segment.

Selected financial information by reportable segment was as follows (dollars in millions):

Three Months Ended June 30, 2018	Sales, net			Operating Income (Loss) (a)
	Trade	Inter-segment	Total	
Packaging	\$ 1,489.6	\$ 6.6	\$ 1,496.2	\$ 273.2 (b)
Paper	250.8	—	250.8	16.2 (b)
Corporate and other	27.1	33.5	60.6	(19.8) (b)
Intersegment eliminations	—	(40.1)	(40.1)	—
	<u>\$ 1,767.5</u>	<u>\$ —</u>	<u>\$ 1,767.5</u>	<u>269.6</u>
Interest expense, net and other				(24.3)
Income before taxes				<u>\$ 245.3</u>

Three Months Ended June 30, 2017	Sales, net			Operating Income (Loss) (a)
	Trade	Inter-segment	Total	
Packaging	\$ 1,305.5	\$ 6.0	\$ 1,311.5	\$ 226.2 (c)
Paper	253.7	—	253.7	27.2
Corporate and Other	24.8	31.1	55.9	(19.3)
Intersegment eliminations	—	(37.1)	(37.1)	—
	<u>\$ 1,584.0</u>	<u>\$ —</u>	<u>\$ 1,584.0</u>	<u>234.1</u>
Interest expense, net and other				(25.5)
Income before taxes				<u>\$ 208.6</u>

Six Months Ended June 30, 2018	Sales, net			Operating Income (Loss) (a)
	Trade	Inter-segment	Total	
Packaging	\$ 2,886.3	\$ 12.8	\$ 2,899.1	\$ 497.9 (b)
Paper	520.2	—	520.2	23.5 (b)
Corporate and Other	51.6	62.6	114.2	(38.9) (b)
Intersegment eliminations	—	(75.4)	(75.4)	—
	<u>\$ 3,458.1</u>	<u>\$ —</u>	<u>\$ 3,458.1</u>	<u>482.5</u>
Interest expense, net and other				(50.7)
Income before taxes				<u>\$ 431.8</u>

Six Months Ended June 30, 2017	Sales, net			Operating Income (Loss) (a)
	Trade	Inter-segment	Total	
Packaging	\$ 2,556.8	\$ 11.6	\$ 2,568.4	\$ 418.6 (d)
Paper	512.9	—	512.9	55.1
Corporate and Other	50.8	59.3	110.1	(36.2) (d)
Intersegment eliminations	—	(70.9)	(70.9)	—
	<u>\$ 3,120.5</u>	<u>\$ —</u>	<u>\$ 3,120.5</u>	<u>\$ 437.5</u>
Interest expense, net and other				(49.8)
Income before taxes				<u>\$ 387.7</u>

- (a) Effective January 1, 2018, the Company adopted ASU 2017-07, *Compensation: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* and applied this standard retrospectively to the prior period reflected herein. This new standard requires the presentation of non-service cost components of net periodic benefits expense to be shown separately outside the subtotal of operating income in the income statement. See Note 2, New and Recently Adopted Accounting Standards, for more information.

The components of our financial statements affected by the change in presentation of operating and non-operating pension expense as originally reported in 2017 and as adjusted for the requirements per the new standard are as follows (dollars in millions):

Segment income (loss)	Three Months Ended	Non-Operating	Three Months Ended
	June 30, 2017 As Reported	Pension Adjustment	June 30, 2017 Adjusted
Packaging	\$ 224.5	\$ 1.7	\$ 226.2
Paper	29.1	(1.9)	27.2
Corporate	(19.8)	0.5	(19.3)
Income from operations	233.8	0.3	234.1
Interest expense, net and other	(25.2)	(0.3)	(25.5)
Income before taxes	<u>\$ 208.6</u>	<u>\$ —</u>	<u>\$ 208.6</u>

Segment income (loss)	Six Months Ended June 30,	Non-Operating	Six Months Ended June
	2017 As Reported	Pension Adjustment	30, 2017 Adjusted
Packaging	\$ 415.3	\$ 3.3	\$ 418.6
Paper	58.9	(3.8)	55.1
Corporate	(37.3)	1.1	(36.2)
Income from operations	436.9	0.6	437.5
Interest expense, net and other	(49.2)	(0.6)	(49.8)
Income before taxes	<u>\$ 387.7</u>	<u>\$ —</u>	<u>\$ 387.7</u>

- (b) Includes the following:
- For the three and six months ended June 30, 2018, \$0.2 million and \$0.5 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.
 - For the three and six months ended June 30, 2018, \$13.6 million and \$22.4 million, respectively, of charges related to the second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill associated with the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.
- (c) Includes \$0.5 million of charges consisting of closure costs related to corrugated products facilities and integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions.
- (d) Includes the following:
- \$1.2 million of charges consisting of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and costs related to a lump sum settlement payment of a multiemployer pension plan withdrawal liability for one of our corrugated products facilities.
 - \$5.0 million of costs for the property damage and business interruption insurance deductible corresponding to the February 2017 explosion at our DeRidder, Louisiana mill.
 - \$2.3 million of income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

19. Commitments, Guarantees, Indemnifications and Legal Proceedings

We have financial commitments and obligations that arise in the ordinary course of our business. These include long-term debt, capital commitments, lease obligations, and purchase commitments for goods and services, and legal proceedings, all of which are discussed in Note 9, Debt, and Note 18, Commitments, Guarantees, Indemnifications, and Legal Proceedings, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2017 Annual Report on Form 10-K.

Guarantees and Indemnifications

We provide guarantees, indemnifications, and other assurances to third parties in the normal course of our business. These include tort indemnifications, product guarantees, environmental assurances, and representations and warranties in commercial agreements. At June 30, 2018, we are not aware of any material liabilities arising from any guarantee, indemnification, or financial assurance we have provided. If we determined such a liability was probable and subject to reasonable determination, we would accrue for it at that time.

DeRidder Mill Incident

On February 8, 2017, a tank located in the pulp mill at the Company's DeRidder, Louisiana facility exploded, resulting in three contractor fatalities and other injuries. The Company has been served with multiple lawsuits involving the decedents and other allegedly injured parties, alleging negligence on the part of the Company and claiming compensatory and punitive damages. The Company is vigorously defending these lawsuits. The Company believes that these suits are covered by its liability insurance policies, subject to an aggregate \$1.0 million deductible. The incident remains under investigation and all lawsuits are in the early stages. Accordingly, the Company is unable to estimate a range of reasonable possible losses at this time.

The Company has also incurred property damage and business interruption losses and has claimed these losses, subject to a \$5.0 million deductible, under its property damage and business interruption insurance policy. As of December 31, 2017, the Company finalized the claim with the insurance carrier and received \$17.0 million in insurance proceeds during the first quarter of 2018. The insurance proceeds are included in net cash provided by operating activities (\$14.5 million) and in net cash used for investing activities (\$2.5 million) based on the nature of the reimbursement.

The Company has cooperated with investigations from the U.S. Occupational Health and Safety Administration (OSHA), the U.S. Chemical Safety Board (CSB) and the U.S. Environmental Protection Agency (EPA). The U.S. Chemical Safety Board completed its investigation and issued its report during the second quarter. The Company settled with OSHA during the second quarter and paid approximately \$40,000 in penalties for citations. The EPA investigation is ongoing.

Legal Proceedings

We are also a party to various legal actions arising in the ordinary course of our business. These legal actions include commercial liability claims, premises liability claims, and employment-related claims, among others. As of the date of this filing, we believe it is not reasonably possible that any of the legal actions against us will, either individually or in the aggregate, have a material adverse effect on our financial condition, results of operations, or cash flows.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This management's discussion and analysis includes statements regarding our expectations with respect to our future performance, expected business conditions, liquidity, and capital resources. Such statements, along with any other statements that are not historical in nature, are forward-looking. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in our 2017 Annual Report on Form 10-K, as well as those factors listed in other documents we file with the Securities and Exchange Commission (SEC). We do not assume any obligation to update any forward-looking statement. Our actual results may differ materially from those contained in or implied by any of the forward-looking statements in this Form 10-Q. Please see "Forward Looking Statements" elsewhere in this Item 2.

Overview

PCA is the third largest producer of containerboard products and the third largest producer of uncoated freesheet paper in North America. We operate six containerboard mills, two paper mills, and 94 corrugated products manufacturing plants. Our containerboard mills produce linerboard and corrugating medium, which are papers primarily used in the production of corrugated products. Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products, including conventional shipping containers used to protect and transport manufactured goods, multi-color boxes and displays with strong visual appeal that help to merchandise the packaged product in retail locations, and honeycomb protective packaging. In addition, we are a large producer of packaging for meat, fresh fruit and vegetables, processed food, beverages, and other industrial and consumer products. We also manufacture and sell white papers, including both commodity and specialty papers, which may have custom or specialized features such as colors, coatings, high brightness, and recycled content. We are headquartered in Lake Forest, Illinois and operate primarily in the United States.

This Item 2 is intended to supplement, and should be read in conjunction with, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our 2017 Annual Report on Form 10-K.

Executive Summary

Second quarter net sales were \$1.77 billion in 2018 and \$1.58 billion in 2017. We reported \$187 million of net income, or \$1.97 per diluted share, during the second quarter of 2018, compared to \$143 million, or \$1.52 per diluted share, during the same period in 2017. Net income included \$10 million of expense for special items (discussed below) in the second quarter of 2018, compared to \$0.5 million in 2017. Excluding special items, we recorded \$197 million of net income, or \$2.08 per diluted share, during the second quarter of 2018, compared to \$144 million, or \$1.52 per diluted share, in the second quarter of 2017. The increase was driven primarily by higher prices and mix and volumes in our Packaging segment, higher prices and mix in our Paper segment, lower wood and recycled fiber costs, and a favorable tax rate resulting primarily from Tax Reform changes. These items were partially offset by higher operating and converting costs, higher freight expense, Wallula No. 3 paper machine conversion-related costs, higher annual outage expenses, and higher depreciation and other costs. For additional detail on special items included in reported GAAP results, see “Item 2. Reconciliations of Non-GAAP Financial Measures to Reported Amounts.”

Packaging segment income from operations was \$273 million in the second quarter of 2018, compared to \$226 million in the second quarter of 2017. Packaging segment earnings before interest, taxes, depreciation, amortization, and depletion (EBITDA) excluding special items was \$363 million in the second quarter of 2018 compared to \$305 million in the second quarter of 2017. The increase was due to higher containerboard and corrugated products prices and mix and sales and production volumes driven by strong demand, and lower wood and recycled fiber costs, partially offset by higher operating and converting costs, higher freight expense, higher annual outage expenses, Wallula No. 3 paper machine conversion-related costs, and depreciation and other costs.

Paper segment income from operations was \$16 million in the second quarter of 2018, compared to income of \$27 million in the second quarter of 2017. Paper segment EBITDA excluding special items was \$38 million in the second quarter of 2018, compared to \$41 million in the second quarter of 2017. The decrease was due to higher input and operating costs and higher freight expense, partially offset by higher prices and mix.

During the first six months of 2018 we reported \$327 million of net income, or \$3.46 per diluted share, compared to \$261 million of net income, or \$2.76 per diluted share, during the same period in 2017. Net income included \$17 million of expense for special items (discussed below), compared to \$3 million of expense for special items during the same period in 2017. Excluding special items, we recorded \$344 million of net income, or \$3.64 per diluted share, during the first six months of 2018, compared to \$263 million of net income, or \$2.79 per diluted share, in the first six months of 2017. The increase was driven primarily by higher containerboard and corrugated products prices and mix and sales and production volumes, higher Paper segment sales volume, lower wood and recycled fiber costs, and lower taxes, partially offset by higher operating and converting costs, higher freight and annual outage expense, Wallula No. 3 paper machine conversion-related costs, and higher depreciation and other costs.

Packaging segment income from operations was \$498 million in the first six months of 2018, compared to \$419 million in the same period in 2017. Packaging segment EBITDA excluding special items was \$671 million in the first six months of 2018, compared to \$579 million in the first six months of 2017. The increase was driven primarily by higher containerboard and corrugated products prices and mix and sales and production volumes, and lower wood and recycled fiber costs, partially offset by higher costs for labor, freight, and annual outages, Wallula No. 3 paper machine conversion-related costs, and depreciation and other costs.

Paper segment income from operations was \$24 million in the first six months of 2018, compared to \$55 million in the first six months of 2017. Paper segment EBITDA excluding special items was \$69 million in the first six months of 2018, compared to \$83 million in the same period in 2017. The decrease was due primarily to higher input and operating costs and higher freight expense, partially offset by higher sales volume and lower annual outage costs.

During the second quarter of 2018, the Company completed the first phase of the previously announced conversion of the No. 3 paper machine at the Wallula Mill to a virgin kraft linerboard machine. The second phase is expected to be completed in the fourth quarter of 2018. The Company incurred charges in the Paper and Packaging segments relating to these activities during the second quarter of 2018 as described below under “Special Items and Earnings per Diluted Share, Excluding Special Items,” and will incur future charges.

Special Items and Earnings per Diluted Share, Excluding Special Items

A reconciliation of reported earnings per diluted share to earnings per share, excluding special items, for the three and six months ended June 30, 2018 and 2017 are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Earnings per diluted share, as reported	\$ 1.97	\$ 1.52	\$ 3.46	\$ 2.76
Special items:				
Wallula mill restructuring (a)	0.11	—	0.18	—
DeRidder mill incident (b)	—	—	—	0.03
Facilities closure, integration-related, and other costs (c)(d)	—	—	—	0.01
Hexacomb working capital adjustment (e)	—	—	—	(0.01)
Total special items	0.11	—	0.18	0.03
Earnings per diluted share, excluding special items	\$ 2.08	\$ 1.52	\$ 3.64	\$ 2.79

- (a) For the three and six months ended June 30, 2018, includes \$13.6 million and \$22.4 million, respectively, of charges related to the discontinuation of production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill in the second quarter of 2018 and conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.
- (b) Includes \$5.0 million of costs for the property damage and business interruption insurance deductible corresponding to the February 2017 explosion at our DeRidder, Louisiana mill.
- (c) For the three and six months ended June 30, 2018, includes \$0.2 million and \$0.5 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.
- (d) For the three and six months ended June 30, 2017, includes \$0.5 million and \$1.3 million, respectively, of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and a lump sum settlement of a multiemployer pension plan withdrawal liability for one of our corrugated products facilities.
- (e) Includes \$2.3 million of income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

Included in this Item 2 are various non-GAAP financial measures, including diluted EPS excluding special items, segment income excluding special items and EBITDA excluding special items. Management excludes special items as it believes these items are not necessarily reflective of the ongoing results of operations of our business. We present these measures because they provide a means to evaluate the performance of our segments and our Company on an ongoing basis using the same measures that are used by our management because these measures assist in providing a meaningful comparison between periods presented and because these measures are frequently used by investors and other interested parties in the evaluation of companies and the performance of their segments. A reconciliation of diluted EPS to diluted EPS excluding special items is included above and the reconciliations of other non-GAAP measures used in this Management's Discussion and Analysis of Financial Condition and Results of Operations, to the most comparable measure reported in accordance with GAAP, are included in Item 2 under "Reconciliations of Non-GAAP Financial Measures to Reported Amounts." Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such.

Industry and Business Conditions

Trade publications reported North American industry-wide corrugated products shipments with one additional working day increased 2.5%, and shipments per day were up 0.9%, during the second quarter of 2018 compared to the same quarter of 2017. Reported industry containerboard production remained flat compared to the second quarter of 2017. Reported industry containerboard inventories at the end of the second quarter of 2018 were approximately 2.4 million tons, up 2.5% compared to the same period in 2017; however, weeks of supply remained flat at 3.7. Reported containerboard export shipments were down 1.3% compared to the second quarter of 2017. Trade publications reported no price change on domestic linerboard and corrugating medium during the second quarter of 2018.

The market for communication papers competes heavily with electronic data transmission and document storage alternatives. Increasing shifts to these alternatives have reduced usage of traditional print media and communication papers. Trade publications reported North American uncoated freesheet paper shipments were relatively flat in the second quarter of 2018, compared to the same quarter of 2017. Average prices reported by a trade publication for cut size office papers were higher by \$66 per ton, or 6.9%, in the second quarter of 2018, compared to the second quarter of 2017.

Outlook

Looking ahead to the third quarter of 2018, we anticipate continued strong demand in our Packaging segment; however, corrugated products shipments will have one less shipping day during the quarter. Although the majority of our previously announced price increases were recognized in the second quarter, we expect to implement most of the remaining portion during the third quarter. In the Paper segment, we expect to complete the implementation of our previously announced paper price increases, although volumes should be lower than normal during this seasonally stronger period as we manage our already tight inventory levels around the scheduled outage at our Jackson Mill. Finally, we should have lower operating costs related to the No. 3 machine at our Wallula Mill as the first phase of the conversion is now behind us. We expect continued inflation in most all of our operating costs, including slightly higher recycled fiber prices and incremental wage pressure with a tighter labor market. In addition, we

anticipate higher freight and logistics expenses, higher scheduled maintenance outage costs, as well as a slightly higher tax rate. Considering these items, we expect third quarter earnings, excluding special items, to be higher than second quarter 2018.

Results of Operations

Three Months Ended June 30, 2018, compared to Three Months Ended June 30, 2017

The historical results of operations of PCA for the three months ended June 30, 2018 and 2017 are set forth below (dollars in millions):

	Three Months Ended June 30,			Change
	2018	2017		
Packaging	\$ 1,496.2	\$ 1,311.5	\$	184.7
Paper	250.8	253.7		(2.9)
Corporate and Other	60.5	55.9		4.6
Intersegment eliminations	(40.0)	(37.1)		(2.9)
Net sales	\$ 1,767.5	\$ 1,584.0	\$	183.5
Packaging	\$ 273.2	\$ 226.2	(b) \$	47.0
Paper	16.2	27.2	(b)	(11.0)
Corporate and Other	(19.8)	(19.3)	(b)	(0.5)
Income from operations	\$ 269.6	\$ 234.1	\$	35.5
Interest expense, net and other	(24.3)	(25.5)	(b)	1.2
Income before taxes	245.3	208.6		36.7
Income tax provision	(58.7)	(65.4)		6.7
Net income	\$ 186.6	\$ 143.2	\$	43.4
<i>Non-GAAP Measures (a)</i>				
Net income excluding special items	\$ 197.0	\$ 143.6	\$	53.4
Consolidated EBITDA	373.7	327.8	(b)	45.9
Consolidated EBITDA excluding special items	382.3	328.3	(b)	54.0
Packaging EBITDA	357.7	304.5	(b)	53.2
Packaging EBITDA excluding special items	362.8	305.0	(b)	57.8
Paper EBITDA	34.2	41.2	(b)	(7.0)
Paper EBITDA excluding special items	37.7	41.2	(b)	(3.5)

(a) See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" included in this Item 2 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

(b) Effective January 1, 2018, the Company adopted ASU 2017-07, *Compensation: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* and applied this standard retrospectively to the prior period reflected herein. See Note 2, New and Recently Adopted Accounting Standards and Note 18, Segment Information, for more information.

Net Sales

Net sales increased \$184 million, or 11.6%, to \$1,768 million during the three months ended June 30, 2018, compared to \$1,584 million during the same period in 2017.

Packaging. Net sales increased \$185 million, or 14.1%, to \$1,496 million, compared to \$1,311 million in the second quarter of 2017 due to increased containerboard and corrugated products volume (\$111 million) and higher domestic and export containerboard and corrugated products prices and mix (\$74 million). In the second quarter of 2018, our domestic containerboard prices increased 6.7%, and export prices increased 22.7%, compared to the same period in 2017. In the second quarter of 2018, containerboard outside shipments increased 15.0%, and total corrugated products shipments were up 8.3%, compared to the second quarter of 2017.

Paper. Net sales during the three months ended June 30, 2018 decreased \$3 million, or 1.1%, to \$251 million, compared to \$254 million in the second quarter of 2017, due to decreased volume (\$11 million), partially offset by favorable changes in prices and mix (\$8 million).

Gross Profit

Gross profit increased \$56 million during the three months ended June 30, 2018, compared to the same period in 2017. The increase was driven primarily by higher containerboard and corrugated products prices and mix and sales and production volumes and lower wood and recycled fiber costs, partially offset by higher operating costs. In the three months ended June 30, 2018, gross profit included special items of \$6 million of Wallula Mill restructuring charges; there were no special items impacting gross profit in the same period last year.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses (“SG&A”) increased \$8 million during the three months ended June 30, 2018, compared to the same period in 2017. The increase was primarily due to employee salaries and fringes (\$6 million), the Sacramento Container acquisition (\$3 million), and various other administrative expenses individually insignificant (\$5 million). These increases were partially offset by certain expenses that were previously recorded in SG&A for the second quarter of 2017 which are now recorded in cost of sales for the second quarter 2018 (\$6 million). Effective January 1, 2018, the Company adopted ASU 2014-09 (Topic 606): *Revenue from Contracts with Customers* using the modified retrospective method. The new standard provides additional clarity concerning contract fulfillment costs, which resulted in certain costs being classified as cost of sales rather than SG&A for 2018.

Other Income (Expense), Net

Other income (expense), net, for the three months ended June 30, 2018 and 2017 are set forth below (dollars in millions):

	Three Months Ended	
	June 30,	
	2018	2017
Wallula mill restructuring	(7.2)	—
Asset disposals and write-offs	\$ (4.1)	\$ (2.4)
DeRidder mill incident	—	2.5
Facilities closure, integration-related, and other costs	—	(0.5)
Other	(2.0)	(0.2)
Total	<u>\$ (6.2)</u>	<u>\$ (0.6)</u>

We discuss these items in more detail in Note 6, Other Income (Expense), Net of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in “Part I, Item 1. Financial Statements” of this Form 10-Q.

Income from Operations

Income from operations increased \$36 million, or 15.2%, during the three months ended June 30, 2018, compared to the same period in 2017. The second quarter of 2018 included \$14 million of expense for special items related to Wallula Mill restructuring. Second quarter 2017 included expense from special items of \$0.5 million of closure costs related to corrugated products facilities and integration costs related to the TimBar Corporation and Columbus Container, Inc. acquisitions.

Packaging. Packaging segment income from operations increased \$47 million to \$273 million, compared to \$226 million during the three months ended June 30, 2017. The increase related primarily to higher containerboard and corrugated products prices and mix (\$64 million), higher containerboard and corrugated products sales and production volumes (\$37 million), and lower wood and recycled fiber costs (\$13 million), partially offset by higher operating and converting costs (\$34 million), higher freight expense (\$9 million), Wallula No. 3 paper machine conversion-related costs (\$5 million), higher annual outage expense (\$3 million), higher depreciation expense (\$3 million), an insurance recovery received in 2017 related to the DeRidder incident (\$3 million), and other expense primarily related to the disposal and transfer of fixed assets (\$5 million). Special items during the second quarter of 2018 included \$5 million of Wallula Mill restructuring charges. Special items for the second quarter 2017 included expense of \$0.5 million which includes closure costs related to corrugated products facilities and integration costs related to the TimBar Corporation and Columbus Container, Inc. acquisitions.

Paper. Paper segment income from operations decreased \$11 million to \$16 million, compared to income of \$27 million during the three months ended June 30, 2017. The decrease primarily related to higher input and operating costs (\$5 million), higher freight expense (\$4 million), and lower production volume (\$2 million), partially offset by higher prices and mix (\$7 million), and lower annual outage expense (\$1 million). Special items during the second quarter of 2018 included \$8 million of Wallula Mill restructuring charges; there were no special items in the second quarter of 2017.

Interest Expense and Income Taxes

Interest expense, net, and other decreased \$1 million during the three months ended June 30, 2018, compared to the same period in 2017. The decrease in interest expense was primarily due to no term loan interest as these were repaid in December 2017 and no interest on the Company’s 6.50% Senior Notes as these were repaid in March 2018, partially offset by the interest on the new notes related to the December 2017 refinancing.

During the three months ended June 30, 2018, we recorded \$59 million of income tax expense, compared to \$65 million of expense during the three months ended June 30, 2017. The effective tax rate for the three months ended June 30, 2018 and 2017 was 23.9% and 31.4%, respectively. The decrease in our effective tax rate was primarily due to federal tax reform as a result of H.R. 1 (P.L. 115-97), originally known as the “Tax Cuts and Jobs Act”, which the President signed into law on December 22, 2017, partially offset by lower excess tax benefits from employee share-based payment awards under ASU 2016-09 in 2018 compared with the same period in 2017.

Six Months Ended June 30, 2018, compared to Six Months Ended June 30, 2017

The historical results of operations of PCA for the six months ended June 30, 2018 and 2017 are set forth below (dollars in millions):

	Six Months Ended June 30,		Change
	2018	2017	
Packaging	\$ 2,899.1	\$ 2,568.4	\$ 330.7
Paper	520.2	512.9	7.3
Corporate and Other	114.2	110.1	4.1
Intersegment eliminations	(75.4)	(70.9)	(4.5)
Net sales	<u>\$ 3,458.1</u>	<u>\$ 3,120.5</u>	<u>\$ 337.6</u>
Packaging	\$ 497.9	\$ 418.6 (b)	\$ 79.3
Paper	23.5	55.1 (b)	(31.6)
Corporate and Other	(38.9)	(36.2) (b)	(2.7)
Income from operations	<u>\$ 482.5</u>	<u>\$ 437.5</u>	<u>\$ 45.0</u>
Interest expense, net and other	(50.7)	(49.8) (b)	(0.9)
Income before taxes	431.8	387.7	44.1
Income tax provision	(105.1)	(127.1)	22.0
Net income	<u><u>\$ 326.7</u></u>	<u><u>\$ 260.6</u></u>	<u><u>\$ 66.1</u></u>
<i>Non-GAAP Measures (a)</i>			
Net income excluding special items	\$ 343.9	\$ 263.3	\$ 80.6
Consolidated EBITDA	694.7	623.7 (b)	71.0
Consolidated EBITDA excluding special items	704.1	627.7 (b)	76.4
Packaging EBITDA	665.6	574.1 (b)	91.5
Packaging EBITDA excluding special items	670.8	578.8 (b)	92.0
Paper EBITDA	64.8	83.1 (b)	(18.3)
Paper EBITDA excluding special items	69.0	83.1 (b)	(14.1)

- (a) See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" included in this Item 2 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.
- (b) Effective January 1, 2018, the Company adopted ASU 2017-07, *Compensation: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* and applied this standard retrospectively to the prior period reflected herein. See Note 2, New and Recently Adopted Accounting Standards and Note 18, Segment Information, for more information.

Net Sales

Net sales increased \$338 million, or 10.8%, to \$3,458 million during the six months ended June 30, 2018, compared to \$3,120 million during the same period in 2017.

Packaging. Net sales increased \$331 million, or 12.9%, to \$2,899 million, compared to \$2,568 million in the six months ended June 30, 2017, due to increased containerboard and corrugated products volume (\$195 million) and higher domestic and export containerboard and corrugated products prices and mix (\$136 million). Our domestic containerboard prices in the first six months of 2018 increased 7.1%, and export prices increased 25.4%, compared to the same period in 2017. In the first six months of 2018, containerboard outside shipments increased 15.0%, and total corrugated products shipments were up 7.2%, compared to the same period in 2017. Prices reported by trade publications increased by \$50 per ton for linerboard and corrugating medium during March 2018.

Paper. Net sales during the six months ended June 30, 2018 increased \$7 million, or 1.4%, to \$520 million, compared to \$513 million in the six months ended June 30, 2017, due to increased volume (\$5 million) and higher prices and mix (\$2 million).

Gross Profit

Gross profit increased \$74 million during the six months ended June 30, 2018, compared to the same period in 2017. The increase was driven primarily by higher containerboard and corrugated products prices and mix and sales and production volumes, higher Paper segment sales volumes, and lower costs for wood and recycled fiber, partially offset by higher operating costs and higher annual outage expense. In the six months ended June 30, 2018, gross profit included special items of \$15 million, primarily related to Wallula Mill restructuring; there were no special items impacting gross profit in the same period last year.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses (“SG&A”) increased \$15 million during the six months ended June 30, 2018, compared to the same period in 2017. The increase was primarily due to employee salaries and fringes (\$11 million), the Sacramento Container acquisition (\$5 million), outside professional services (\$4 million), and various other administrative expenses individually insignificant (\$7 million). These increases were partially offset by certain expenses that were previously recorded in SG&A for the second quarter of 2017 which are now recorded in cost of sales for the second quarter 2018 (\$12 million). Effective January 1, 2018, the Company adopted ASU 2014-09 (Topic 606): *Revenue from Contracts with Customers* using the modified retrospective method. The new standard provides additional clarity concerning contract fulfillment costs, which resulted in certain costs being classified as cost of sales rather than SG&A for 2018.

Other Income (Expense), Net

Other income (expense), net, for the six months ended June 30, 2018 and 2017 are set forth below (dollars in millions):

	Six Months Ended	
	June 30,	
	2018	2017
Asset disposals and write-offs	\$ (9.2)	\$ (4.7)
Wallula mill restructuring	(7.9)	—
Facilities closure, integration-related, and other costs	(0.1)	(1.3)
DeRidder mill incident	—	(2.5)
Hexacomb working capital adjustment	—	2.3
Other	(4.4)	(1.4)
Total	<u>\$ (21.6)</u>	<u>\$ (7.6)</u>

We discuss these items in more detail in Note 6, Other Income (Expense), Net of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in “Part I, Item 1. Financial Statements” of this Form 10-Q.

Income from Operations

Income from operations increased \$45 million, or 10.3%, during the six months ended June 30, 2018, compared to the same period in 2017. The first six months of 2018 included \$23 million of expense for special items, primarily related to Wallula Mill restructuring. The six months ended June 30, 2017 included \$5 million for the property damage and business interruption insurance deductible related to the DeRidder Mill incident; \$1 million of charges consisting of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and costs related to a lump sum settlement payment for a multiemployer pension plan withdrawal liability; and \$2 million of income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

Packaging. Packaging segment income from operations increased \$79 million to \$498 million during the first six months of 2018 compared to the same period last year. The increase related primarily to higher containerboard and corrugated products prices and mix (\$120 million), higher containerboard and corrugated products sales and production volumes (\$65 million), and lower wood and recycled fiber costs (\$21 million), partially offset by higher operating and converting costs (\$65 million), higher annual outage expense (\$24 million), higher freight expense (\$15 million), higher depreciation expense (\$6 million), Wallula No. 3 paper machine conversion-related costs (\$5 million), an insurance recovery received in 2017 related to the DeRidder incident (\$3 million), and other expense primarily related to the disposal and transfer of fixed assets (\$7 million). Special items in the Packaging segment in the first six months of 2018 included \$5 million of Wallula Mill restructuring charges. The six months of 2017 included \$5 million for the property damage and business interruption insurance deductible related to the DeRidder Mill incident; \$1 million of charges consisting of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and costs related to a lump sum settlement payment for a multiemployer pension plan withdrawal liability; and \$2 million of income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

Paper. Paper segment income from operations decreased \$32 million to \$24 million, compared to the six months ended June 30, 2017. The decrease primarily related to higher input and operating costs (\$14 million) and higher freight (\$7 million), partially offset by lower annual outage expense (\$6 million). Special items in the first six months of 2018 included \$17 million of Wallula Mill restructuring charges; there were no special items in the first six months of 2017.

Interest Expense and Income Taxes

Interest expense, net, and other was \$51 million during the six months ended June 30, 2018, compared to \$50 million during the six months ended June 30, 2017. The increase in interest expense was primarily due to interest on the new notes related to the December 2017 refinancing, partially offset by no term loan interest as these were repaid in December 2017 and lower interest on the Company’s 6.50% Senior Notes as these were repaid in March 2018.

During the six months ended June 30, 2018, we recorded \$105 million of income tax expense, compared to \$127 million of expense during the six months ended June 30, 2017. The effective tax rate for the six months ended June 30, 2018 and 2017 was 24.3% and 32.8%, respectively. The decrease in our effective tax rate was primarily due to federal tax reform as a result of H.R. 1 (P.L. 115-97), originally known as the “Tax Cuts and Jobs Act”, which the President signed into law on December 22, 2017, partially offset by lower excess tax benefits from employee share-based payment awards under ASU 2016-09 in 2018 compared with the same period in 2017.

Liquidity and Capital Resources

Sources and Uses of Cash

Our primary sources of liquidity are net cash provided by operating activities and available borrowing capacity under our revolving credit facility. At June 30, 2018, we had \$200 million of cash and \$327 million of unused borrowing capacity under the revolving credit facility, net of letters of credit. Currently, our primary uses of cash are for operations, capital expenditures, acquisitions, debt service, repurchases of common stock, and declared common stock dividends. We believe that net cash generated from operating activities, cash on hand, available borrowings under our revolving credit facility, and available capital through access to capital markets will be adequate to meet our liquidity and capital requirements, including payments of any declared common stock dividends, for the foreseeable future. As our debt or credit facilities become due, we will need to repay, extend, or replace such facilities. Our ability to do so will be subject to future economic conditions and financial, business, and other factors, many of which are beyond our control.

Below is a summary table of our cash flows, followed by a discussion of our sources and uses of cash through operating activities, investing activities, and financing activities (dollars in millions):

	Six Months Ended June 30,		Change
	2018	2017	
Net cash provided by (used for):			
Operating activities	\$ 533.5	\$ 385.6	\$ 147.9
Investing activities	(273.5)	(140.9)	(132.6)
Financing activities	(277.3)	(163.0)	(114.3)
Net (decrease) increase in cash and cash equivalents	<u>\$ (17.3)</u>	<u>\$ 81.7</u>	<u>\$ (99.0)</u>

Operating Activities

Our operating cash flow is primarily driven by our earnings and changes in operating assets and liabilities, such as accounts receivable, inventories, accounts payable and other accrued liabilities, as well as factors described below. Cash requirements for operating activities are subject to PCA’s operating needs and the timing of collection of receivables and payments of payables and expenses.

During the six months ended June 30, 2018, net cash provided by operating activities was \$534 million, compared to \$386 million in the same period in 2017, an increase of \$148 million. Cash from operations excluding changes in cash used for operating assets and liabilities increased \$126 million, primarily due to higher income from operations as discussed above. Cash increased by \$22 million due to changes in operating assets and liabilities. The increase was primarily due to the following: (a) a reduction in taxes paid in 2018 as a result of Federal Tax Reform, and (b) the receipt of the DeRidder insurance proceeds in the first quarter of 2018. These changes were partially offset by an increase in accounts receivable related to higher sales volumes in the Packaging segment, as well as the timing of collections in the Paper segment.

Investing Activities

We used \$274 million for investing activities during the six months ended June 30, 2018 compared to \$141 million during the same period in 2017. We spent \$274 million for internal capital investments during the six months ended June 30, 2018, compared to \$139 million during the same period in 2017.

We expect capital investments in 2018 to be between \$530 million and \$550 million. These expenditures could increase or decrease as a result of a number of factors, including our financial results, strategic opportunities, future economic conditions, and our regulatory compliance requirements. We currently estimate capital expenditures to comply with environmental regulations will be about \$8 million in 2018. Our estimated environmental expenditures could vary significantly depending upon the enactment of new environmental laws and regulations, including those related to greenhouse gas emissions and industrial boilers. For additional information, see “Environmental Matters” in “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our 2017 Annual Report on Form 10-K.

Financing Activities

During the six months ended June 30, 2018, net cash used for financing activities was \$277 million, compared to \$163 million during the same period in 2017. The increase primarily relates to the \$150 million repayment of our 6.5% senior notes that were due March 2018. During the comparable period in 2017, we made \$34 million of principal payments on long-term variable rate debt and capital leases.

Contractual Obligations

There have been no material changes to the contractual obligations table disclosed in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our 2017 Annual Report on Form 10-K.

Reconciliations of Non-GAAP Financial Measures to Reported Amounts

Income from operations excluding special items, net income excluding special items, EBITDA, and EBITDA excluding special items are non-GAAP financial measures. Management excludes special items, as it believes that these items are not necessarily reflective of the ongoing operations of our business. These measures are presented because they provide a means to evaluate the performance of our segments and our Company on an ongoing basis using the same measures that are used by our management, because these measures assist in providing a meaningful comparison between periods and because these measures are frequently used by investors and other interested parties in the evaluation of companies and the performance of their segments. Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such. Reconciliations of the non-GAAP measures to the most comparable measure reported in accordance with GAAP for the three and six months ended June 30, 2018 and 2017 follow (dollars in millions):

	Three Months Ended June 30,					
	2018			2017		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	\$ 245.3	\$ (58.7)	\$ 186.6	\$ 208.6	\$ (65.4)	\$ 143.2
Special items:						
Wallula mill restructuring (a)	13.6	(3.4)	10.2	—	—	—
Facilities closure, integration-related, and other costs (a)(b)	0.2	—	0.2	0.5	(0.1)	0.4
Total special items	13.8	(3.4)	10.4	0.5	(0.1)	0.4
Excluding special items	\$ 259.1	\$ (62.1)	\$ 197.0	\$ 209.1	\$ (65.5)	\$ 143.6

	Six Months Ended June 30,					
	2018			2017		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	\$ 431.8	\$ (105.1)	\$ 326.7	\$ 387.7	\$ (127.1)	\$ 260.6
Special items:						
Wallula mill restructuring (a)	22.4	(5.6)	16.8	—	—	—
Facilities closure, integration-related, and other costs (a)(c)	0.5	(0.1)	0.4	1.3	(0.4)	0.9
DeRidder mill incident (c)	—	—	—	5.0	(1.7)	3.3
Hexacomb working capital adjustment (c)	—	—	—	(2.3)	0.8	(1.5)
Total special items	22.9	(5.7)	17.2	4.0	(1.3)	2.7
Excluding special items	\$ 454.7	\$ (110.8)	\$ 343.9	\$ 391.7	\$ (128.4)	\$ 263.3

(a) The three and six months ended June 30, 2018 include the following:

- \$0.2 million and \$0.5 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.
- \$13.6 million and \$22.4 million, respectively, of charges related to the announced second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill in preparation for the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

(b) The three months ended June 30, 2017 include \$0.5 million of charges consisting of closure costs related to corrugated products facilities and integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions.

(c) The six months ended June 30, 2017 include the following:

1. \$1.3 million of charges consisting of closure costs related to corrugated products facilities, integration costs related to the TimBar Corporation and Columbus Container Inc. acquisitions, and costs related to a lump sum settlement payment of a multiemployer pension plan withdrawal liability for one of our corrugated products facilities.
2. \$5.0 million of costs for the property damage and business interruption insurance deductible corresponding to the February 2017 explosion at our DeRidder, Louisiana mill.
3. \$2.3 million of income related to a working capital adjustment from the April 2015 sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico.

The following table reconciles net income to EBITDA and EBITDA excluding special items for the periods indicated (dollars in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Net income	\$ 186.6	\$ 143.2	\$ 326.7	\$ 260.6
Interest expense, net and other	24.3	25.5	50.7	49.8
Income tax provision	58.7	65.4	105.1	127.1
Depreciation, amortization, and depletion	104.1	93.7	212.2	186.2
EBITDA	\$ 373.7	\$ 327.8	\$ 694.7	\$ 623.7
Special items:				
Wallula mill restructuring	8.6	—	9.3	—
Facilities closure, integration-related, and other costs	—	0.5	0.1	1.3
DeRidder mill incident	—	—	—	5.0
Hexacomb working capital adjustment	—	—	—	(2.3)
Total special items	8.6	0.5	9.4	4.0
EBITDA excluding special items	\$ 382.3	\$ 328.3	\$ 704.1	\$ 627.7

The following table reconciles segment income (loss) to EBITDA and EBITDA excluding special items for the periods indicated (dollars in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Packaging				
Segment income	\$ 273.2	\$ 226.2	\$ 497.9	\$ 418.6
Depreciation, amortization, and depletion	84.5	78.3	167.7	155.5
EBITDA	357.7	304.5	665.6	574.1
Wallula mill restructuring	5.1	—	5.1	—
Facilities closure, integration-related, and other costs	—	0.5	0.1	1.3
DeRidder mill incident	—	—	—	5.0
Hexacomb working capital adjustment	—	—	—	(1.6)
EBITDA excluding special items	<u>\$ 362.8</u>	<u>\$ 305.0</u>	<u>\$ 670.8</u>	<u>\$ 578.8</u>
Paper				
Segment income	\$ 16.2	\$ 27.2	\$ 23.5	\$ 55.1
Depreciation, amortization, and depletion	18.0	14.0	41.3	28.0
EBITDA	34.2	41.2	64.8	83.1
Wallula mill restructuring	3.5	—	4.2	—
EBITDA excluding special items	<u>\$ 37.7</u>	<u>\$ 41.2</u>	<u>\$ 69.0</u>	<u>\$ 83.1</u>
Corporate and Other				
Segment loss	\$ (19.8)	\$ (19.3)	\$ (38.9)	\$ (36.2)
Depreciation, amortization, and depletion	1.6	1.4	3.2	2.7
EBITDA	(18.2)	(17.9)	(35.7)	(33.5)
Hexacomb working capital adjustment	—	—	—	(0.7)
EBITDA excluding special items	<u>\$ (18.2)</u>	<u>\$ (17.9)</u>	<u>\$ (35.7)</u>	<u>\$ (34.2)</u>
EBITDA	<u>\$ 373.7</u>	<u>\$ 327.8</u>	<u>\$ 694.7</u>	<u>\$ 623.7</u>
EBITDA excluding special items	<u>\$ 382.3</u>	<u>\$ 328.3</u>	<u>\$ 704.1</u>	<u>\$ 627.7</u>

Market Risk and Risk Management Policies

PCA is exposed to the impact of interest rate changes and changes in the market value of its financial instruments. We periodically enter into derivatives to minimize these risks, but not for trading purposes. We were not a party to any derivatives-based arrangements at June 30, 2018. For a discussion of derivatives and hedging activities, see Note 13, Derivative Instruments and Hedging Activities, of the Notes to Consolidated Financial Statements in “Part II, Item 8. Financial Statements and Supplementary Data” of our 2017 Annual Report on Form 10-K.

At June 30, 2018 interest rates on 100% of PCA’s outstanding debt are fixed.

Off-Balance-Sheet Activities

The Company does not have any off-balance sheet arrangements as of June 30, 2018.

Environmental Matters

There have been no material changes to the disclosure set forth in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Environmental Matters” filed with our 2017 Annual Report on Form 10-K.

Critical Accounting Policies and Estimates

Management’s discussion and analysis of financial condition and results of operations are based upon the Company’s consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures of contingent assets and liabilities. On an ongoing basis, PCA evaluates its estimates, including those related to business combinations, pensions and other postretirement benefits, goodwill and intangible assets, long-lived asset impairment, environmental liabilities, and income taxes, among others. PCA bases its estimates on historical experience and on various other assumptions that are believed to be

reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

PCA has included in its 2017 Annual Report on Form 10-K a discussion of its critical accounting policies and estimates which require management's most difficult, subjective, or complex judgments used in the preparation of its consolidated financial statements. PCA has not had any changes to these critical accounting estimates during the first six months of 2018.

New and Recently Adopted Accounting Standards

For a listing of our new and recently adopted accounting standards, see Note 2, New and Recently Adopted Accounting Standards, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q.

Forward-Looking Statements

Some of the statements in this Quarterly Report on Form 10-Q, and in particular, statements found in this Management's Discussion and Analysis of Financial Condition and Results of Operations, that are not historical in nature are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements about our expectations regarding our future liquidity, earnings, expenditures, and financial condition. These statements are often identified by the words "will," "should," "anticipate," "believe," "expect," "intend," "estimate," "hope," or similar expressions. These statements reflect management's current views with respect to future events and are subject to risks and uncertainties. There are important factors that could cause actual results to differ materially from those in forward-looking statements, many of which are beyond our control. These factors, risks and uncertainties include the following:

- the impact of general economic conditions;
- the impact of acquired businesses and risks and uncertainties regarding operation, expected benefits and integration of such businesses;
- containerboard, corrugated products, and white paper general industry conditions, including competition, product demand, product pricing, and input costs;
- fluctuations in wood fiber and recycled fiber costs;
- fluctuations in purchased energy costs;
- the possibility of unplanned outages or interruptions at our principal facilities;
- legislative or regulatory actions or requirements, particularly concerning environmental or tax matters.

Our actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements, and accordingly, we can give no assurances that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do occur, what impact they will have on our results of operations or financial condition. Given these uncertainties, investors are cautioned not to place undue reliance on these forward-looking statements. We expressly disclaim any obligation to publicly revise any forward-looking statements that have been made to reflect the occurrence of events after the date hereof. For a discussion of other factors, risks and uncertainties that may affect our business, see Item 1A. Risk Factors included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

For a discussion of market risks related to PCA, see Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations - Market Risk and Risk Management Policies" in this Quarterly Report on Form 10-Q.

Item 4. CONTROLS AND PROCEDURES

PCA maintains disclosure controls and procedures (as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934) that are designed to provide reasonable assurance that information required to be disclosed in PCA's filings under the Securities Exchange Act is recorded, processed, summarized and reported within the periods specified in the rules and forms of the SEC and that such information is accumulated and communicated to PCA's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Prior to filing this report, PCA completed an evaluation under the supervision and with the participation of PCA's management, including PCA's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of PCA's disclosure controls and procedures as of June 30, 2018. The evaluation of PCA's disclosure controls and procedures included a review of the controls' objectives and design, PCA's implementation of the controls, and the effect of the controls on the information generated for use in this report. Based on this evaluation, PCA's Chief Executive Officer and Chief Financial Officer concluded that PCA's disclosure controls and procedures were effective at the reasonable assurance level as of June 30, 2018.

Changes in Internal Control over Financial Reporting

On October 2, 2017, PCA acquired Sacramento Container Corporation (“Sacramento Container”). We are currently in the process of evaluating and integrating Sacramento Container’s controls over financial reporting, which may result in changes or additions to PCA’s internal control over financial reporting. Under guidelines established by the SEC, companies are permitted to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition while integrating the acquired company. We excluded Sacramento Container from the assessment of internal control over financial reporting at June 30, 2018. Except as may relate to the integration of the Sacramento Container acquisition, there were no other changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the most recent fiscal quarter ended June 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. For the six months ended June 30, 2018, Sacramento Container accounted for approximately 5% of the Company’s consolidated total assets and 3% of consolidated net sales.

**PART II
OTHER INFORMATION**

Item 1. LEGAL PROCEEDINGS

The disclosure set forth under the caption "Legal Proceedings" in Note 19, Commitments, Guarantees, Indemnifications and Legal Proceedings, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q is incorporated herein by reference.

Item 1A. RISK FACTORS

There have been no material changes to the risk factors disclosed in "Part I, Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The following table presents information related to our repurchases of common stock made under repurchase plans authorized by PCA's Board of Directors, and shares withheld to cover taxes on vesting of equity awards, during the three months ended June 30, 2018:

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased (a)	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (in millions)
April 1-30, 2018	732	\$ 109.93	—	\$ 193.0
May 1-31, 2018	—	—	—	193.0
June 1-30, 2018	65,999	114.93	—	193.0
Total	<u>66,731</u>	<u>\$ 114.87</u>	<u>—</u>	<u>\$ 193.0</u>

(a) All shares were withheld from employees to cover income and payroll taxes on equity awards that vested during the period.

Item 3. DEFAULTS UPON SENIOR SECURITIES

None.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5. OTHER INFORMATION

None.

Item 6. EXHIBITS

Exhibit Number	Description
10.1	Form of Executive Officer Restricted Stock Award (June 26, 2018). †
10.2	Form of Executive Officer Performance Unit Award – ROIC (June 26, 2018). †
10.3	Form of Executive Officer Performance Unit Award – TSR (June 26, 2018). †
31.1	Certification of Chief Executive Officer, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. †
31.2	Certification of Chief Financial Officer, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. †
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. §1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
101	The following financial information from Packaging Corporation of America’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Statements of Income and Comprehensive Income for the three and six months ended June 30, 2018 and 2017, (ii) Consolidated Balance Sheets at June 30, 2018 and December 31, 2017, (iii) Consolidated Statements of Cash Flows for the six months ended June 30, 2018 and 2017, and (iv) the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements. †

† Filed herewith.

SIGNATURES

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.

Packaging Corporation of America

/s/ MARK W. KOWLZAN

Mark W. Kowlzan
Chairman and Chief Executive Officer

/s/ ROBERT P. MUNDY

Robert P. Mundy
Senior Vice President and Chief Financial Officer

Date: August 8, 2018

Packaging Corporation of America
Amended and Restated 1999 Long-Term Equity Incentive Plan
Executive Officer Restricted Stock Award Agreement

By this agreement, Packaging Corporation of America (“PCA” or the “Company”) grants to you the following restricted shares of the Company’s common stock, \$.01 par value, subject to the terms and conditions set forth below, in the attached Plan Prospectus, and in the Amended and Restated 1999 Long-Term Equity Incentive Plan, as may from time to time be amended and/or restated (the “Plan”), all of which are an integral part of this Agreement. A copy of the Amended and Restated 1999 Long-Term Equity Incentive Plan may be obtained from the Company upon request. Capitalized terms used and not defined herein have the meanings given to them in the Plan.

Grant Date: June 26, 2018

Number of Restricted Shares Awarded:

Fair Market Value at Grant:

Restriction Expires: June 26, 2022

The shares of restricted stock granted under the Plan will be held in escrow by the Company on the participant’s behalf during any period of restriction and will bear an appropriate legend specifying the applicable restrictions thereon, and, if requested, the participant will be required to execute a blank stock power therefor. During the period of restriction the participant shall have all of the rights of a holder of Common Stock, including but not limited to the rights to receive dividends and to vote, and any stock or other securities received as a distribution with respect to such participant’s restricted stock shall be subject to the same restrictions as then in effect for the restricted stock.

This award is further subject to the Company’s compensation recovery policy in effect from time to time.

Except as otherwise provided by the Board of Directors:

- (1) at such time as a Participant ceases to be a director, officer, or employee of, or to otherwise perform services for, the Company and its Subsidiaries due to death or Disability, during any period of restriction, all restrictions on the shares granted to the Participant shall lapse;
 - (2) at such time as a Participant ceases to be, or in the event a participant does not become, a director, officer, or employee of, or otherwise perform services for, the Company or its Subsidiaries for any other reason, all shares of restricted stock granted to such Participant on which the restrictions have not lapsed shall be immediately forfeited to the Company.
-

If a Change in Control occurs prior to the fourth anniversary of the Date of Grant, then all restrictions on the shares granted to the Participant will lapse on the date of such Change in Control. Notwithstanding the foregoing, the restrictions will not lapse upon a Change in Control if an award meeting the following requirements (the "Replacement Award") is provided in substitution hereof:

- (i) it relates to equity securities of the Company or its successor following the Change in Control or another entity that is affiliated with the Company or its successor following the Change in Control and such equity securities are publicly traded and registered under the Securities Exchange Act of 1934;
- (ii) it has a value at least equal to the value of this award as of the date of the Change in Control as determined by the Committee;
- (iii) it does not contain any performance goals and vesting is subject only to continued service with the Company or its successor following the Change in Control through the fourth anniversary of the original Grant Date.
- (iv) its forfeiture provisions, transfer restrictions and any other restrictions lapse upon the fourth anniversary of the original Grant Date; provided, however, that such restrictions will lapse, and the shares will fully vest, if within two years after the date of the Change in Control, the Participant's employment is terminated by the Company without Cause or the Participant resigns for Good Reason; and
- (v) the terms and conditions of the Replacement Award with respect to dividends and a subsequent change in control are not less favorable to the Participant than the terms and conditions of this award.

Without limiting the generality of the foregoing, the Replacement Award may take the form of a continuation of this award or such other form approved by the Committee provided that the preceding requirements of this subsection are satisfied. The determination of whether the requirements are satisfied shall be made by the Committee, as constituted immediately prior to the Change in Control, in its sole discretion. In the event of a Change in Control, Participant agrees to accept a Replacement Award meeting the above conditions in substitution of this award.

"Good Reason" means: (i) a change in the Participant's job title or position, which results in a material diminution in authority, duties or responsibilities; (ii) any material breach of this agreement by the Company of any material obligation of the Company for the payment or provision of compensation or other benefits to the Participant; (iii) a material diminution in Participant's compensation or a failure by the Company to provide an arrangement for the Participant for any fiscal year of the Company giving the Participant the opportunity to earn an incentive award for such year; or (iv) the Company requires Participant to materially change the location of Participant's principal office; provided such new location is one in excess of 35 miles from the location of Participant's principal office before such change.

Please indicate your acceptance of this Agreement by signing in the space provided below and returning this page to Halane Young, Executive Director, Compensation & HR Systems, located in Lake Forest.

Accepted and Agreed:

Packaging Corporation of America

BY:

_____ _____ _____
Date

**PACKAGING CORPORATION OF AMERICA
AMENDED AND RESTATED 1999 LONG-TERM EQUITY INCENTIVE PLAN
PERFORMANCE UNIT AGREEMENT-ROIC**

PARTICIPANT:	
DATE OF GRANT:	June 26, 2018
NUMBER OF PERFORMANCE UNITS:	
PERFORMANCE PERIOD:	2019-2021

This Agreement is entered into between Packaging Corporation of America, a Delaware corporation (the "Company"), and the Participant named above. In consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the Company and the Participant hereby agree as follows:

1. Grant of Performance Units. Subject to the restrictions, terms and conditions of this Agreement and the Plan Documents (as hereafter defined), the Company hereby awards to the Participant the number of performance units stated above (the "Performance Units").
2. Governing Documents. This Agreement and the Performance Units awarded hereby are subject to all the restrictions, terms and provisions of the Amended and Restated 1999 Long-Term Equity Incentive Plan (the "Plan") which are herein incorporated by reference and to the terms of which the Participant hereby agrees. Capitalized terms used in this Agreement that are not defined herein shall have the meaning set forth in the Plan.
3. No Stockholder Rights. The Performance Units will be a book entry credited in the name of the Participant representing a Full Value Award under the Plan and are not actual Shares. The Participant will not have the right to vote the Performance Units.
4. Vesting. Except as otherwise provided in the Plan and subject to paragraph 6 hereof, the Participant's Performance Units covered hereby may (to the extent not previously forfeited) vest as of the occurrence of a Vesting Date (as defined on Exhibit A). The terms and conditions of vesting, and the number of Shares to be paid out upon vesting, shall be as provided on Exhibit A.
5. Forfeiture Upon Separation from Service. Except as provided by the Company's Compensation Committee or the Board of Directors, upon the Participant's cessation of employment (or provision of other services as permitted under the Plan) prior to a Vesting Date for any reason, all Performance Units granted hereunder shall be forfeited.
6. Recovery of Unearned Compensation. The Performance Units are subject to the Company's compensation recovery policy applicable to executive officers as shall be in effect from time to time.

7. Dividend Equivalents. Dividend equivalents are hereby granted on the Performance Units, which shall accrue to the extent that dividends are declared on the Shares of the Company's common stock. Accrued dividend equivalents shall be paid out on the Vesting Date in Shares equal in value to the amount of dividends declared between the date of award and the Vesting Date on the number of Shares actually paid out pursuant to these Performance Units on such Vesting Date.
8. Section 409A Compliance. It is the intention that this Agreement conform and be administered in all respects in a manner that complies with Section 409A of the Code; provided, however, that the Company does not make any representations or guarantees of the tax treatment of the award under Section 409A or otherwise.

Notwithstanding any provision contained in this Agreement to the contrary, if (i) any payment hereunder is subject to Section 409A of the Code, (ii) such payment is to be paid on account of the Participant's separation from service (within the meaning of Section 409A of the Code) and (iii) the Participant is a "specified employee" (within the meaning of Section 409A(a)(2)(B) of the Code), then such payment shall be delayed, if necessary, until the first day of the seventh month following the Participant's separation from service (or, if later, the date on which such payment is otherwise to be paid under this Agreement). With respect to any payments hereunder that are subject to Section 409A of the Code and that are payable on account of a separation from service, the determination of whether the Recipient has had a separation from service shall be determined in accordance with Section 409A of the Code.

9. Miscellaneous.

- (a) Modification/ Binding Effect. The Committee may from time to time modify or amend this Agreement in accordance with the provisions of the Plan. This Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns and shall be binding upon and inure to the benefit of the Participant and his or her legatees, distributees and personal representatives. By signing this Agreement, the Participant acknowledges and expressly agrees that the Participant has read the Agreement and the Plan and agrees to their terms.
 - (b) No Right to Continued Employment. Nothing in the Plan or this Agreement shall interfere with or limit in any way the right of the Company or any of its Subsidiaries to terminate the Participant's employment at any time, or confer upon the Participant any right to continue in the employ of the Company or any of its Subsidiaries.
 - (c) Interpretation. The Committee shall have full power and discretion to construe and interpret the Plan (and any rules and regulations issued thereunder) and this Award. Any determination or interpretation by the Committee under or pursuant to the Plan or this Award shall be final and binding and conclusive on all persons affected hereby.
-

- (d) Applicable Law. This Agreement shall be governed by and construed in accordance with the law of the State of Delaware regardless of the application of rules of conflict of law that would apply the laws of any other jurisdiction.
- (e) Limitation on Rights; No Right to Future Grants; Extraordinary Item of Compensation. By entering into this Agreement and accepting the Performance Units evidenced hereby, the Participant acknowledges: (a) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (b) that the Award does not create any contractual or other right to receive future grants of Awards; (c) that participation in the Plan is voluntary; (d) that the value of the Performance Units is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments; and (e) that the future value of the Stock is unknown and cannot be predicted with certainty.
- (f) Employee Data Privacy. By entering into this Agreement and accepting the Performance Units evidenced hereby, the Participant: (a) authorizes the Company, any agent of the Company administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its affiliates any information and data the Company requests in order to facilitate the grant of the Award and the administration of the Plan; (b) waives any data privacy rights the Participant may have with respect to such information; and (c) authorizes the Company and its agents to store and transmit such information in electronic form.
- (g) Consent to Electronic Delivery. By entering into this Agreement and accepting the Performance Units evidenced hereby, Participant hereby consents to the delivery of information (including, without limitation, information required to be delivered to the Participant pursuant to applicable securities laws) regarding the Company and the Subsidiaries, the Plan, this Agreement and the Performance Units via Company web site or other electronic delivery.
- (k) Headings and Captions. The section and other headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.
- (l) Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.
-

IN WITNESS WHEREOF, the Company has caused this Agreement to be duly executed by its officer thereunto duly authorized, and the Participant has hereunto set his or her hand, all as of the Date of Grant written above.

PACKAGING CORPORATION OF AMERICA

BY: _____

EMPLOYEE NAME

Exhibit A

Vesting Provisions

1. *Vesting Date.* Vesting Date means, with respect to the vesting of Performance Units pursuant to this Exhibit A, the fourth anniversary of the Date of Grant, with the amount of Shares to be paid out to be determined pursuant to paragraph 2 below. Notwithstanding the foregoing: (a) in the event of the Participant's death or termination on account of Disability, the Vesting Date and amount of Shares to be paid out will be determined pursuant to paragraph 3 below; and (b) in the event of a Change in Control, the Vesting Date and amount of Shares to be paid out will be determined pursuant to paragraph 4 below. Dividend equivalents shall be paid on all Shares paid out upon vesting pursuant to Section 7 of the Performance Unit Agreement.

2. *ROIC Peer Group Rank:* The Performance Criterion applicable to the award is return on invested capital, or "ROIC" as more fully described in your Notice of Award. In determining the actual number of Shares to be paid out pursuant to this Exhibit A on the Vesting Date, the Committee will determine the Company's average ROIC (as defined in your Notice of Award) over the three years comprising the Performance Period (i.e., the arithmetic mean of ROICs for the three individual years) and compare such number against the average ROIC for the companies included in the Peer Group (as defined in your Notice of Award). The performance and payout scale is set forth in your Notice of Award.

Promptly after the end of the Performance Period, the Committee shall determine the Company's performance against the Peer Group and the number of Shares to be paid out upon vesting.

3. *Vesting Upon Death or Disability.* The Performance Units shall vest in the event of the Participant's death or termination on account of Disability prior to the fourth anniversary of the date of the Date of Grant, in each case, as described below.

In the event of the Participant's death, the Vesting Date shall be the date of death, as the case may be; and the number of Shares to be paid out to such Participant shall equal to the number that would be paid out pursuant to paragraph 2 based upon performance through the end of the calendar year immediately preceding such death. If such death occurs prior to the end of the first full calendar year in the Performance Period, the number of Shares to be paid out shall equal 100% of the number of Performance Units.

In the event of termination on account of Disability prior to the fourth anniversary of the date of the Date of Grant, the Vesting Date will be the fourth anniversary of the Date of Grant and the number of Shares to be paid out will be determined pursuant to paragraph 2 based upon actual performance through the entire Performance Period.

4. *Vesting Upon Change in Control.* Upon a Change in Control prior to the fourth anniversary of the Date of Grant, the Performance Units will vest, with the Vesting Date being the date of such Change in Control. In such case, the number of Shares to be paid out will equal the number that would be paid out pursuant to paragraph 2 based upon performance through the end of the calendar year immediately preceding such Change in Control. If such Change in Control occurs prior to the end of the first full calendar year in the Performance Period, the number of Shares to be paid out shall equal 100% of the number of Performance Units. The number of Shares to be

paid out pursuant to a Change in Control as determined pursuant to the previous two sentences shall be defined as the "Change in Control Vest Amount." Notwithstanding the foregoing, the Performance Units will not vest and will not be paid out upon a Change in Control if an award meeting the following requirements (the "Replacement Award") is provided in substitution hereof:

- (i) it relates to equity securities of the Company or its successor following the Change in Control or another entity that is affiliated with the Company or its successor following the Change in Control and such equity securities are publicly traded and registered under the Securities Exchange Act of 1934;
- (ii) it has a value at least equal to the value of this award as of the date of the Change in Control as determined by the Committee, assuming payout at the Change in Control Vest Amount;
- (iii) it does not contain any performance goals and will be paid out at the Change in Control Vest Amount subject only to continued service with the Company or its successor following the Change in Control through the fourth anniversary of the original Date of Grant.
- (iv) its forfeiture provisions, transfer restrictions and any other restrictions lapse upon the fourth anniversary of the original Date of Grant; provided, however, that such restrictions will lapse, and the award will fully vest and be paid out at the Change in Control Vest Amount, if within two years after the date of the Change in Control, the Participant's employment is terminated by the Company without Cause or the Participant resigns for Good Reason; and
- (v) its other terms and conditions relating to the service condition, dividend equivalents and a subsequent change in control are not less favorable to the Participant than the terms and conditions of this award.

Without limiting the generality of the foregoing, the Replacement Award may take the form of a continuation of this award or such other form approved by the Committee provided that the preceding requirements of this subsection are satisfied. The determination of whether the requirements are satisfied shall be made by the Committee, as constituted immediately prior to the Change in Control, in its sole discretion. In the event of a Change in Control, Participant agrees to accept a Replacement Award meeting the above conditions in substitution of this award.

"Good Reason" means: (i) a change in the Participant's job title or position, which results in a material diminution in authority, duties or responsibilities; (ii) any material breach of this agreement by the Company of any material obligation of the Company for the payment or provision of compensation or other benefits to the Participant; (iii) a material diminution in Participant's compensation or a failure by the Company to provide an arrangement for the Participant for any fiscal year of the Company giving the Participant the opportunity to earn an incentive award for such year; or (iv) the Company requires Participant to materially change the location of Participant's principal office; provided such new location is one in excess of 35 miles from the location of Participant's principal office before such change.

**PACKAGING CORPORATION OF AMERICA
AMENDED AND RESTATED 1999 LONG-TERM EQUITY INCENTIVE PLAN
PERFORMANCE UNIT AGREEMENT-TSR**

PARTICIPANT:	
DATE OF GRANT:	June 26, 2018
NUMBER OF PERFORMANCE UNITS:	
PERFORMANCE PERIOD:	July 1, 2018 to June 30, 2021

This Agreement is entered into between Packaging Corporation of America, a Delaware corporation (the "Company"), and the Participant named above. In consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the Company and the Participant hereby agree as follows:

1. Grant of Performance Units. Subject to the restrictions, terms and conditions of this Agreement and the Plan Documents (as hereafter defined), the Company hereby awards to the Participant the number of performance units stated above (the "Performance Units").
2. Governing Documents. This Agreement and the Performance Units awarded hereby are subject to all the restrictions, terms and provisions of the Amended and Restated 1999 Long-Term Equity Incentive Plan (the "Plan") which are herein incorporated by reference and to the terms of which the Participant hereby agrees. Capitalized terms used in this Agreement that are not defined herein shall have the meaning set forth in the Plan.
3. No Stockholder Rights. The Performance Units will be a book entry credited in the name of the Participant representing a Full Value Award under the Plan and are not actual Shares. The Participant will not have the right to vote the Performance Units.
4. Vesting. Except as otherwise provided in the Plan and subject to paragraph 6 hereof, the Participant's Performance Units covered hereby may (to the extent not previously forfeited) vest as of the occurrence of a Vesting Date (as defined on Exhibit A). The terms and conditions of vesting, and the number of Shares to be paid out upon vesting, shall be as provided on Exhibit A.
5. Forfeiture Upon Separation from Service. Except as provided by the Company's Compensation Committee or the Board of Directors, upon the Participant's cessation of employment (or provision of other services as permitted under the Plan) prior to a Vesting Date for any reason, all Performance Units granted hereunder shall be forfeited.
6. Recovery of Unearned Compensation. The Performance Units are subject to the Company's compensation recovery policy applicable to executive officers as shall be in effect from time to time.

7. Dividend Equivalents. Dividend equivalents are hereby granted on the Performance Units, which shall accrue to the extent that dividends are declared on the Shares of the Company's common stock. Accrued dividend equivalents shall be paid out on the Vesting Date in Shares equal in value to the amount of dividends declared between the date of award and the Vesting Date on the number of Shares actually paid out pursuant to these Performance Units on such Vesting Date.
8. Section 409A Compliance. It is the intention that this Agreement conform and be administered in all respects in a manner that complies with Section 409A of the Code; provided, however, that the Company does not make any representations or guarantees of the tax treatment of the award under Section 409A or otherwise.

Notwithstanding any provision contained in this Agreement to the contrary, if (i) any payment hereunder is subject to Section 409A of the Code, (ii) such payment is to be paid on account of the Participant's separation from service (within the meaning of Section 409A of the Code) and (iii) the Participant is a "specified employee" (within the meaning of Section 409A(a)(2)(B) of the Code), then such payment shall be delayed, if necessary, until the first day of the seventh month following the Participant's separation from service (or, if later, the date on which such payment is otherwise to be paid under this Agreement). With respect to any payments hereunder that are subject to Section 409A of the Code and that are payable on account of a separation from service, the determination of whether the Recipient has had a separation from service shall be determined in accordance with Section 409A of the Code.

8. Miscellaneous.

- (a) Modification/ Binding Effect. The Committee may from time to time modify or amend this Agreement in accordance with the provisions of the Plan. This Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns and shall be binding upon and inure to the benefit of the Participant and his or her legatees, distributees and personal representatives. By signing this Agreement, the Participant acknowledges and expressly agrees that the Participant has read the Agreement and the Plan and agrees to their terms.
 - (b) No Right to Continued Employment. Nothing in the Plan or this Agreement shall interfere with or limit in any way the right of the Company or any of its Subsidiaries to terminate the Participant's employment at any time, or confer upon the Participant any right to continue in the employ of the Company or any of its Subsidiaries.
 - (c) Interpretation. The Committee shall have full power and discretion to construe and interpret the Plan (and any rules and regulations issued thereunder) and this Award. Any determination or interpretation by the Committee under or pursuant to the Plan or this Award shall be final and binding and conclusive on all persons affected hereby.
-

- (d) Applicable Law. This Agreement shall be governed by and construed in accordance with the law of the State of Delaware regardless of the application of rules of conflict of law that would apply the laws of any other jurisdiction.
- (e) Limitation on Rights; No Right to Future Grants; Extraordinary Item of Compensation. By entering into this Agreement and accepting the Performance Units evidenced hereby, the Participant acknowledges: (a) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (b) that the Award does not create any contractual or other right to receive future grants of Awards; (c) that participation in the Plan is voluntary; (d) that the value of the Performance Units is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments; and (e) that the future value of the Stock is unknown and cannot be predicted with certainty.
- (f) Employee Data Privacy. By entering into this Agreement and accepting the Performance Units evidenced hereby, the Participant: (a) authorizes the Company, any agent of the Company administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its affiliates any information and data the Company requests in order to facilitate the grant of the Award and the administration of the Plan; (b) waives any data privacy rights the Participant may have with respect to such information; and (c) authorizes the Company and its agents to store and transmit such information in electronic form.
- (g) Consent to Electronic Delivery. By entering into this Agreement and accepting the Performance Units evidenced hereby, Participant hereby consents to the delivery of information (including, without limitation, information required to be delivered to the Participant pursuant to applicable securities laws) regarding the Company and the Subsidiaries, the Plan, this Agreement and the Performance Units via Company web site or other electronic delivery.
- (k) Headings and Captions. The section and other headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.
- (l) Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.
-

IN WITNESS WHEREOF, the Company has caused this Agreement to be duly executed by its officer thereunto duly authorized, and the Participant has hereunto set his or her hand, all as of the Date of Grant written above.

PACKAGING CORPORATION OF AMERICA

BY: _____

EMPLOYEE NAME

Exhibit A

Vesting Provisions

1. *Vesting Date.* Vesting Date means, with respect to the vesting of Performance Units pursuant to this Exhibit A, June 30, 2021, with the amount of Shares to be paid out to be determined pursuant to paragraph 2 below. Notwithstanding the foregoing: (a) in the event of the Participant's death or termination on account of Disability, the Vesting Date and amount of Shares to be paid out will be determined pursuant to paragraph 3 below; and (b) in the event of a Change in Control, the Vesting Date and amount of Shares to be paid out will be determined pursuant to paragraph 4 below. Dividend equivalents shall be paid on all Shares paid out upon vesting pursuant to Section 7 of the Performance Unit Agreement.

2. *Performance Criterion:* The Performance Criterion applicable to the award is total shareholder return, or "TSR" as more fully described in your Notice of Award. In determining the actual number of Shares to be paid out pursuant to this Exhibit A on the Vesting Date, the Committee will determine the Company's TSR over the Performance Period and compare such number against the TSRs for the companies included in the "Peer Group" defined in your Notice of Award. The performance and payout scale is set forth in your Notice of Award.

Promptly after the end of the Performance Period, and in any event, within 2 ½ months after the end of the Performance Period, the Committee shall determine the Company's performance against the Peer Group and the number of Shares to be paid out upon vesting.

3. *Vesting Upon Death or Disability.* The Performance Units shall vest in the event of the Participant's death or termination on account of Disability prior to the third anniversary of the date of the Date of Grant, in each case as provided below.

In the event of the Participant's death, the Vesting Date shall be the date of death, as the case may be; and the number of Shares to be paid out to such Participant shall equal to the number that would be paid out pursuant to paragraph 2 based upon performance through the date of death, multiplied by a fraction the numerator of which is the number of days elapsed in the Performance Period through and including the date of death and the denominator of which is the total number of days in the Performance Period.

In the event of termination on account of Disability prior to the third anniversary of the date of the Date of Grant, the Vesting Date will be the fourth anniversary of the Date of Grant and the number of Shares to be paid out will be determined pursuant to paragraph 2 based upon actual performance through the entire Performance Period multiplied by a fraction the numerator of which is the number of days elapsed in the Performance Period through and including the date of termination on account of Disability and the denominator of which is the total number of days in the Performance Period.

4. *Vesting Upon Change in Control.* Upon a Change in Control prior to the third anniversary of the Date of Grant, the Performance Units will vest, with the Vesting Date being the date of such Change in Control. In such case, the number of Shares to be paid out will equal the number that would be paid out pursuant to paragraph 2 based upon performance through the date of the Change in Control. The number of Shares to be paid out pursuant to a Change in Control as

determined pursuant to the previous two sentences shall be defined as the "Change in Control Vest Amount." Notwithstanding the foregoing, the Performance Units will not vest and will not be paid out upon a Change in Control if an award meeting the following requirements (the "Replacement Award") is provided in substitution hereof:

- (i) it relates to equity securities of the Company or its successor following the Change in Control or another entity that is affiliated with the Company or its successor following the Change in Control and such equity securities are publicly traded and registered under the Securities Exchange Act of 1934;
- (ii) it has a value at least equal to the value of this award as of the date of the Change in Control as determined by the Committee, assuming payout at the Change in Control Vest Amount;
- (iii) it does not contain any performance goals and will be paid out at the Change in Control Vest Amount subject only to continued service with the Company or its successor following the Change in Control through the fourth anniversary of the original Date of Grant.
- (iv) its forfeiture provisions, transfer restrictions and any other restrictions lapse upon the fourth anniversary of the original Date of Grant; provided, however, that such restrictions will lapse, and the award will fully vest and be paid out at the Change in Control Vest Amount, if within two years after the date of the Change in Control, the Participant's employment is terminated by the Company without Cause or the Participant resigns for Good Reason; and
- (v) its other terms and conditions relating to the service condition, dividend equivalents and a subsequent change in control are not less favorable to the Participant than the terms and conditions of this award.

Without limiting the generality of the foregoing, the Replacement Award may take the form of a continuation of this award or such other form approved by the Committee provided that the preceding requirements of this subsection are satisfied. The determination of whether the requirements are satisfied shall be made by the Committee, as constituted immediately prior to the Change in Control, in its sole discretion. In the event of a Change in Control, Participant agrees to accept a Replacement Award meeting the above conditions in substitution of this award.

"Good Reason" means: (i) a change in the Participant's job title or position, which results in a material diminution in authority, duties or responsibilities; (ii) any material breach of this agreement by the Company of any material obligation of the Company for the payment or provision of compensation or other benefits to the Participant; (iii) a material diminution in Participant's compensation or a failure by the Company to provide an arrangement for the Participant for any fiscal year of the Company giving the Participant the opportunity to earn an incentive award for such year; or (iv) the Company requires Participant to materially change the location of Participant's principal office; provided such new location is one in excess of 35 miles from the location of Participant's principal office before such change.

**CEO CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Mark W. Kowlzan, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Packaging Corporation of America (PCA);

(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 PCA as of, and for, the periods presented in this report;

(4) PCA's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for PCA 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 PCA, 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 PCA'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 PCA's internal control over financial reporting that occurred during PCA's most recent fiscal quarter (PCA's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, PCA's internal control over financial reporting; and

(5) PCA's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to PCA's auditors and the Audit Committee of PCA'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 PCA'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 PCA's internal control over financial reporting.

/s/ Mark W. Kowlzan

Mark W. Kowlzan
Chairman and Chief Executive Officer

Date: August 8, 2018

**CFO CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Robert P. Mundy, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Packaging Corporation of America (PCA);

(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 PCA as of, and for, the periods presented in this report;

(4) PCA's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for PCA 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 PCA, 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 PCA'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 PCA's internal control over financial reporting that occurred during PCA's most recent fiscal quarter (PCA's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, PCA's internal control over financial reporting; and

(5) PCA's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to PCA's auditors and the Audit Committee of PCA'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 PCA'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 PCA's internal control over financial reporting.

/s/ Robert P. Mundy

Robert P. Mundy
Senior Vice President and Chief Financial Officer

Date: August 8, 2018

**CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND
CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. §1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Mark W. Kowlzan, Chief Executive Officer of Packaging Corporation of America (the “Company”), certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Quarterly Report of the Company on Form 10-Q for the period ended June 30, 2018 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 such Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Mark W. Kowlzan

Mark W. Kowlzan

Chairman and Chief Executive Officer

Date: August 8, 2018

I, Robert P. Mundy, Chief Financial Officer of Packaging Corporation of America (the “Company”), certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Quarterly Report of the Company on Form 10-Q for the period ended June 30, 2018 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 such Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Robert P. Mundy

Robert P. Mundy

Senior Vice President and Chief Financial Officer

Date: August 8, 2018