CARPENTER TECHNOLOGY CORP
Form 10-Q
February 02, 2017
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended December 31, 2016

or

o 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 1-5828

CARPENTER TECHNOLOGY CORPORATION
(Exact name of Registrant as specified in its Charter)

Delaware	23-0458500
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1735 Market Street, 15th Floor Philadelphia, Pennsylvania	19103
(Address of principal executive offices)	(Zip Code)
610-208-2000	
(Registrant's telephone number, including area code)	

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

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 x No o

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

Large accelerated filer:	x	Accelerated filer:	o
Non-accelerated filer:	o (Do not check if a smaller reporting company)	Smaller reporting company:	o

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

The number of shares outstanding of the issuer’s common stock as of January 26, 2017 was 46,721,025.

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PART I - FINANCIAL INFORMATION
Item 1. Financial Statements

CARPENTER TECHNOLOGY CORPORATION
CONSOLIDATED BALANCE SHEETS
(Unaudited)
(in millions, except share data)

	December 31, 2016	June 30, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 22.5	$ 82.0
Accounts receivable, net	250.0	253.6
Inventories	700.7	628.7
Other current assets	53.0	46.4
Total current assets	1,026.2	1,010.7
Property, plant and equipment, net	1,322.7	1,351.4
Goodwill	244.8	244.8
Other intangibles, net	59.9	63.2
Deferred income taxes	7.3	8.2
Other assets	116.5	116.0
Total assets	$ 2,777.4	$ 2,794.3
LIABILITIES		
Current liabilities:		
Short-term debt	$ 25.0	$ —
Accounts payable	167.7	159.6
Accrued liabilities	119.4	139.2
Total current liabilities	312.1	298.8
Long-term debt	604.0	611.3
Accrued pension liabilities	405.3	509.3
Accrued postretirement benefits	117.8	116.6
Deferred income taxes	164.1	102.4
Other liabilities	43.8	51.0
Total liabilities	1,647.1	1,689.4
Contingencies and commitments (see Note 8)		
STOCKHOLDERS' EQUITY		
Common stock — authorized 100,000,000 shares; issued 55,334,124 shares at December 31, 2016 and 55,254,569 shares at June 30, 2016; outstanding 46,717,339 shares at December 31, 2016 and 46,600,125 shares at June 30, 2016	276.7	276.3
Capital in excess of par value	280.2	273.5
Reinvested earnings	1,292.7	1,308.9
Common stock in treasury (8,616,785 shares and 8,654,444 shares at December 31, 2016 and June 30, 2016, respectively), at cost	(342.4)	(343.9)
Accumulated other comprehensive loss	(376.9)	(409.9)
Total stockholders' equity	1,130.3	1,104.9
Total liabilities and stockholders' equity	$ 2,777.4	$ 2,794.3

See accompanying notes to consolidated financial statements.

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CARPENTER TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)
(in millions, except per share data)

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
Net sales	$427.4	$443.8	$816.3	$899.4
Cost of sales	364.9	377.5	707.8	764.5
Gross profit	62.5	66.3	108.5	134.9
Selling, general and administrative expenses	47.1	44.5	91.7	87.8
Restructuring charges	—	—	—	0.4
Operating income	15.4	21.8	16.8	46.7
Interest expense	(7.4)	(7.0)	(14.8)	(13.6)
Other income (expense), net	0.3	0.3	1.0	(1.9)
Income before income taxes	8.3	15.1	3.0	31.2
Income tax expense	1.3	3.6	2.2	10.8
Net income	$7.0	$11.5	$0.8	$20.4
EARNINGS PER COMMON SHARE:				
Basic	$0.15	$0.23	$0.01	$0.41
Diluted	$0.15	$0.23	$0.01	$0.41
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:				
Basic	47.0	48.8	47.0	49.3
Diluted	47.1	48.9	47.1	49.4
Cash dividends per common share	$0.18	$0.18	$0.36	$0.36

See accompanying notes to consolidated financial statements.

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CARPENTER TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)
($ in millions)

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
Net income	$7.0	$11.5	$0.8	$20.4
Other comprehensive income (loss), net of tax				
Pension and postretirement benefits, net of tax of $(3.5), $(2.3), $(14.0) and $(4.6), respectively	5.7	3.7	23.1	7.4
Net gain (loss) on derivative instruments, net of tax of $(2.4), $3.4, $(8.8) and $6.8, respectively	3.8	(5.7)	14.6	(11.2)
Foreign currency translation	(4.0)	(2.3)	(4.7)	(5.6)
Other comprehensive income (loss)	5.5	(4.3)	33.0	(9.4)
Comprehensive income	$12.5	$7.2	$33.8	$11.0

See accompanying notes to consolidated financial statements.

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CARPENTER TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
($ in million)

	Six Months Ended December 31, 2016	2015
OPERATING ACTIVITIES		
Net income	$0.8	$20.4
Adjustments to reconcile net income to net cash (used for) provided from operating activities:		
Depreciation and amortization	58.7	60.3
Deferred income taxes	39.1	2.5
Net pension expense	31.0	26.9
Share-based compensation expense	6.5	4.9
Net loss on disposals of property and equipment	0.3	0.1
Changes in working capital and other:		
Accounts receivable	0.8	33.4
Inventories	(74.2)	(34.8)
Other current assets	(5.6)	(8.2)
Accounts payable	17.2	(17.6)
Accrued liabilities	3.6	(11.3)
Pension plan contributions	(100.0)	—
Other postretirement plan contributions	(1.8)	(6.1)
Other, net	(2.2)	1.1
Net cash (used for) provided from operating activities	(25.8)	71.6
INVESTING ACTIVITIES		
Purchases of property, equipment and software	(45.1)	(49.5)
Proceeds from disposals of property and equipment	—	0.3
Other	—	4.0
Net cash used for investing activities	(45.1)	(45.2)
FINANCING ACTIVITIES		
Net change in short-term debt	25.0	39.5
Dividends paid	(17.0)	(17.9)
Purchases of treasury stock	—	(96.3)
Payments on seller financed debt related to purchase of software	—	(2.5)
Tax benefits on share-based compensation	0.3	—
Proceeds from stock options exercised	1.8	0.2
Net cash provided from (used for) financing activities	10.1	(77.0)
Effect of exchange rate changes on cash and cash equivalents	1.3	1.7
DECREASE IN CASH AND CASH EQUIVALENTS	(59.5)	(48.9)
Cash and cash equivalents at beginning of period	82.0	70.0
Cash and cash equivalents at end of period	$22.5	$21.1
SUPPLEMENTAL CASH FLOW INFORMATION:		
Non-cash investing activities:		
Acquisition of property, equipment and software	$6.0	$5.7

See accompanying notes to consolidated financial statements.

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CARPENTER TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015
(Unaudited)
($ in millions, except per share data)

	Common Stock Par Value Of $5	Common Stock Capital in Excess of Par Value	Reinvested Earnings	Common Stock in Treasury	Accumulated Other Comprehensive (Loss) Income	Total Equity
Balances at June 30, 2016	$276.3	$ 273.5	$ 1,308.9	$ (343.9)	$ (409.9)	$ 1,104.9
Net income			0.8			0.8
Pension and postretirement benefits gain, net of tax					23.1	23.1
Net gain on derivative instruments, net of tax					14.6	14.6
Foreign currency translation					(4.7)	(4.7)
Cash Dividends:						0
Common @ $0.36 per share			(17.0)			(17.0)
Share-based compensation plans		5.0		1.5		6.5
Stock options exercised	0.4	1.4				1.8
Tax windfall on share-based compensation		0.3				0.3
Balances at December 31, 2016	$276.7	$ 280.2	$ 1,292.7	$ (342.4)	$ (376.9)	$ 1,130.3

	Common Stock Par Value Of $5	Common Stock Capital in Excess of Par Value	Reinvested Earnings	Common Stock in Treasury	Accumulated Other Comprehensive (Loss) Income	Total Equity
Balances at June 30, 2015	$276.2	$ 266.6	$ 1,332.4	$ (221.1)	$ (328.2)	$ 1,325.9
Net income			20.4			20.4
Pension and postretirement benefits gain, net of tax					7.4	7.4
Net loss on derivative instruments, net of tax					(11.2)	(11.2)
Foreign currency translation					(5.6)	(5.6)
Cash Dividends:						0
Common @ $0.36 per share			(17.9)			(17.9)
Purchase of treasury stock				(96.3)		(96.3)
Share-based compensation plans		4.7		0.5		5.2
Stock options exercised		0.2				0.2
Tax shortfall on share-based compensation		(0.1)				(0.1)
Balances at December 31, 2015	$276.2	$ 271.4	$ 1,334.9	$ (316.9)	$ (337.6)	$ 1,228.0

See accompanying notes to consolidated financial statements.

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CARPENTER TECHNOLOGY CORPORATION
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Basis of Presentation

The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments, consisting of normal and recurring adjustments, considered necessary for a fair statement of the results are reflected in the interim periods presented. The June 30, 2016 consolidated balance sheet data was derived from audited financial statements, but does not include all of the disclosures required by U.S. generally accepted accounting principles. These unaudited consolidated financial statements should be read in conjunction with the consolidated financial statements and footnotes thereto included in Carpenter's annual report on Form 10-K for the year ended June 30, 2016 (the "2016 Form 10-K"). Operating results for the three and six months ended December 31, 2016 are not necessarily indicative of the operating results for any future period.

As used throughout this report, unless the context requires otherwise, the terms "Carpenter", the "Company", "Registrant", "Issuer", "we" and "our" refer to Carpenter Technology Corporation.

2. Restructuring and Asset Impairment Charges

During fiscal year 2016, the Company approved restructuring actions consisting of an early retirement incentive to be funded by the Company's qualified pension plan and other severance related costs paid by the Company. In addition, as a result of the prolonged weakness in oil and gas drilling and exploration activities, the Company recorded non-cash asset impairment charges. At this time, the Company does not expect any additional charges related to these restructuring actions in the future.

Activity and reserve balances for restructuring charges were as follows:

($ in millions)	
Reserve balance at June 30, 2015	$2.3
Restructuring and asset impairment charges	18.0
Payments from qualified pension plan associated with restructuring charges	(9.4)
Cash payments	(3.0)
Non-cash asset impairment charges and other	(7.6)
Reserve balance at June 30, 2016	0.3
Cash payments	(0.3)
Reserve balance at December 31, 2016	$—

3. Earnings per Common Share

The Company calculates basic and diluted earnings per share using the two class method. Under the two class method, earnings are allocated to common stock and participating securities (non-vested restricted shares and units that receive non-forfeitable dividends) according to their participation rights in dividends and undistributed earnings. The earnings available to each class of stock are divided by the weighted average number of outstanding shares for the period in each class. Diluted earnings per share assumes the issuance of common stock for all potentially dilutive share equivalents outstanding.

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The calculations of basic and diluted earnings per common share for the three and six months ended December 31, 2016 and 2015 were as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in millions, except per share data)	2016	2015	2016	2015
Net income	$7.0	$11.5	$0.8	$20.4
Less: earnings and dividends allocated to participating securities	(0.1)	—	(0.1)	(0.1)
Earnings available for common stockholders used in calculation of basic earnings per common share	$6.9	$11.5	$0.7	$20.3
Weighted average number of common shares outstanding, basic	47.0	48.8	47.0	49.3
Basic earnings per common share	$0.15	$0.23	$0.01	$0.41
Net income	$7.0	$11.5	$0.8	$20.4
Less: earnings and dividends allocated to participating securities	(0.1)	—	(0.1)	(0.1)
Earnings available for common stockholders used in calculation of diluted earnings per common share	$6.9	$11.5	$0.7	$20.3
Weighted average number of common shares outstanding, basic	47.0	48.8	47.0	49.3
Effect of shares issuable under share-based compensation plans	0.1	0.1	0.1	0.1
Weighted average number of common shares outstanding, diluted	47.1	48.9	47.1	49.4
Diluted earnings per common share	$0.15	$0.23	$0.01	$0.41

The following awards issued under share-based compensation plans were excluded from the above calculations of diluted earnings per share because their effects were anti-dilutive:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in millions)	2016	2015	2016	2015
Stock options	2.0	1.5	1.8	1.4

4. Inventories

Inventories consisted of the following components as of December 31, 2016 and June 30, 2016:

($ in millions)	December 31, 2016	June 30, 2016
Raw materials and supplies	$ 152.5	$ 137.6
Work in process	357.3	298.9
Finished and purchased products	190.9	192.2
Total inventory	$ 700.7	$ 628.7

Inventories are valued at the lower of cost or market. Cost for inventories is principally determined using the last-in, first-out (“LIFO”) method. The Company also uses the first-in, first-out (“FIFO”) and average costs methods. As of December 31, 2016 and June 30, 2016, $124.5 million and $118.4 million of inventory, respectively, was accounted for using a method other than the LIFO method.

5. Accrued Liabilities

Accrued liabilities consisted of the following as of December 31, 2016 and June 30, 2016:

($ in millions)	December 31, 2016	June 30, 2016
Accrued compensation and benefits	$ 43.0	$ 41.8
Derivative financial instruments	15.2	31.6
Accrued postretirement benefits	13.7	13.8
Accrued interest expense	11.3	11.2
Other	36.2	40.8
Total accrued liabilities	$ 119.4	$ 139.2

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6. Pension and Other Postretirement Benefits

The components of the net periodic benefit cost related to the Company's pension and other postretirement benefits for the three and six months ended December 31, 2016 and 2015 were as follows:

Three months ended December 31,	Pension Plans		Other Postretirement Plans	
($ in millions)	2016	2015	2016	2015
Service cost	$7.7	$7.8	$ 0.9	$ 0.8
Interest cost	12.4	14.4	2.3	2.5
Expected return on plan assets	(16.6)	(16.4)	(1.7)	(1.7)
Amortization of net loss	9.5	6.8	0.8	0.7
Amortization of prior service cost (benefit)	0.5	0.1	(1.6)	(1.6)
Net periodic benefit costs	$13.5	$12.7	$ 0.7	$ 0.7

Six months ended December 31,	Pension Plans		Other Postretirement Plans	
($ in millions)	2016	2015	2016	2015
Service cost	$16.0	$15.6	$ 1.8	$ 1.7
Interest cost	25.3	28.8	4.6	5.2
Expected return on plan assets	(31.9)	(32.9)	(3.4)	(3.5)
Amortization of net loss	18.9	13.7	1.6	1.4
Amortization of prior service cost (benefit)	0.8	0.2	(3.2)	(3.3)
Curtailment charge	0.5	—	—	—
Net periodic benefit costs	$29.6	$25.4	$ 1.4	$ 1.5

In September 2016, the Company announced changes to retirement plans it offers to certain employees. The Company has frozen benefits accrued to eligible participants of its largest qualified defined benefit pension plan and certain non-qualified benefit plans effective December 31, 2016. The Company recognized the plan freeze in the three months ended September 30, 2016 as a curtailment, since it eliminates the accrual of defined benefits for future services for a significant number of participants. The impact of the curtailment includes a one-time accelerated recognition of outstanding unamortized prior service costs of $0.5 million. The curtailment event triggered a re-measurement for the affected benefit plans as of August 31, 2016 using a weighted average discount rate of 3.57 percent. The re-measurement resulted in a reduction of accrued pension liabilities of $18.7 million.
In October 2016, the Company made a voluntary pension contribution of $100.0 million to its largest qualified defined benefit pension plan. The Company currently expects to make no contributions to its qualified defined benefit pension plans during the remainder of fiscal year 2017.

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7. Debt

The Company's $500.0 million syndicated credit facility (“Credit Agreement”) extends to June 2018. Interest on the borrowings under the Credit Agreement accrue at variable rates, based upon LIBOR or a defined “Base Rate,” both determined based upon the rating of the Company’s senior unsecured long-term debt (the “Debt Rating”). The applicable margin to be added to LIBOR ranges from 0.75% to 1.90% (1.45% as of December 31, 2016), and for Base Rate-determined loans, from 0.00% to 0.90% (0.45% as of December 31, 2016). The Company also pays a quarterly commitment fee ranging from 0.075% to 0.375% (0.225% as of December 31, 2016), determined based upon the Debt Rating, of the unused portion of the $500.0 million commitment under the Credit Agreement. In addition, the Company must pay certain letter of credit fees, ranging from 0.75% to 1.90% (1.45% as of December 31, 2016), with respect to letters of credit issued under the Credit Agreement. The Company has the right to voluntarily prepay and re-borrow loans and to terminate or reduce the commitments under the facility. As of December 31, 2016, the Company had $5.8 million of issued letters of credit and $25.0 million of short-term borrowings under the Credit Agreement with the balance of $469.2 million available to the Company.

The Company is subject to certain financial and restrictive covenants under the Credit Agreement, which, among other things, require the maintenance of a minimum interest coverage ratio of 3.50 to 1.00. The interest coverage ratio is defined in the Credit Agreement as, for any period, the ratio of consolidated earnings before interest, taxes, depreciation and amortization and non-cash net pension expense (“EBITDA”) to consolidated interest expense for such period. The Credit Agreement also requires the Company to maintain a debt to capital ratio of less than 55 percent. The debt to capital ratio is defined in the Credit Agreement as the ratio of consolidated indebtedness, as defined therein, to consolidated capitalization, as defined therein. As of December 31, 2016 and June 30, 2016, the Company was in compliance with all of the covenants of the Credit Agreement.

Long-term debt outstanding as of December 31, 2016 and June 30, 2016 consisted of the following:

($ in millions)	December 31, 2016	June 30, 2016
Medium-term notes, Series B at 6.97% to 7.10% due from April 2018 to May 2018 (face value of $55.0 million at December 31, 2016 and June 30, 2016)	$ 55.0	$ 55.0
Senior unsecured notes, 5.20% due July 2021 (face value of $250.0 million at December 31, 2016 and June 30, 2016)	250.3	257.8
Senior unsecured notes, 4.45% due March 2023 (face value of $300.0 million at December 31, 2016 and June 30, 2016)	298.7	298.5
Total	604.0	611.3
Less: amounts due within one year	—	—
Long-term debt, net of current portion	$ 604.0	$ 611.3

For the three months ended December 31, 2016 and 2015, interest costs totaled $7.7 million and $7.5 million, respectively, of which $0.3 million and $0.5 million, respectively, were capitalized as part of the cost of property, plant, equipment and software. For the six months ended December 31, 2016 and 2015, interest costs totaled $15.3 million and $14.7 million, respectively, of which $0.5 million and $1.1 million, respectively, were capitalized as part of the cost of property, plant, equipment and software.

8. Contingencies and Commitments

Environmental

The Company is subject to various federal, state, local and international environmental laws and regulations relating to pollution, protection of public health and the environment, natural resource damages and occupational safety and health. Although compliance with these laws and regulations may affect the costs of the Company's operations, compliance costs to date have not been material. The Company has environmental remediation liabilities at some of its owned operating facilities and has been designated as a potentially responsible party ("PRP") with respect to certain third party Superfund waste-disposal sites and other third party-owned sites. The Company accrues amounts for environmental remediation costs that represent management's best estimate of the probable and reasonably estimable future costs related to environmental remediation. During the six months ended December 31, 2016, the Company decreased the liability for a company-owned former operating site by $0.1 million. The liabilities recorded for environmental remediation costs at Superfund sites, other third party-owned sites and Carpenter-owned current or former operating facilities remaining at December 31, 2016 and June 30, 2016 were $16.1 million and $16.2 million, respectively. Additionally, the Company has been notified that it may be a PRP with respect to other Superfund sites as to which no proceedings have been instituted against the Company. Neither the exact amount of remediation costs nor the final method of their allocation among all designated PRPs at these Superfund sites have been determined. Accordingly, at this time, the Company cannot reasonably estimate expected costs for such matters. The liability for future environmental remediation costs that can be reasonably estimated is evaluated by management on a quarterly basis.

Other

The Company is defending various routine claims and legal actions that are incidental to its business and common to its operations, including those pertaining to product claims, commercial disputes, patent infringement, employment actions, employee benefits, compliance with domestic and foreign laws, personal injury claims and tax issues. Like many other manufacturing companies in recent years, the Company, from time to time, has been named as a defendant in lawsuits alleging personal injury as a result of exposure to chemicals and substances in the workplace such as asbestos. The Company provides for costs relating to these matters when a loss is probable and the amount of the loss is reasonably estimable. The effect of the outcome of these matters on the Company's future results of operations and liquidity cannot be predicted because any such effect depends on future results of operations and the amount and timing (both as to recording future charges to operations and cash expenditures) of the resolution of such matters. While it is not feasible to determine the outcome of these matters, management believes that the total liability from these matters will not have a material effect on the Company's financial position, results of operations or cash flows over the long-term. However, there can be no assurance that an increase in the scope of pending matters or that any future lawsuits, claims, proceedings or investigations will not be material to the Company's financial position, results of operations or cash flows in a particular future quarter or year.

9. Share Repurchase Program

In October 2014, the Company's Board of Directors authorized a share repurchase program. The program authorized the purchase of up to $500.0 million of the Company's outstanding common stock and expired in October 2016. The shares were repurchased from time to time at the Company's discretion based on capital needs of the business, general market conditions and the market price of the stock. During the six months ended December 31, 2016, the Company did not purchase shares of its common stock on the open market.

10. Fair Value Measurements

The fair value hierarchy has three levels based on the inputs used to determine fair value. Level 1 refers to quoted prices in active markets for identical assets or liabilities. Level 2 refers to observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data. Level 3 refers to unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs. Currently, the Company does not use Level 1 and 3 inputs.

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CARPENTER TECHNOLOGY CORPORATION
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The following tables present the Company's assets and liabilities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy:

December 31, 2016 ($ in millions)	Fair Value Measurements Using Input Type Level 2
Assets:	
Marketable securities:	
Municipal auction rate securities	$ 4.2
Derivative financial instruments	5.5
Total assets	$ 9.7
Liabilities:	
Derivative financial instruments	$ 18.9

June 30, 2016 ($ in millions)	Fair Value Measurements Using Input Type Level 2
Assets:	
Marketable securities:	
Municipal auction rate securities	$ 4.1
Derivative financial instruments	11.8
Total assets	$ 15.9
Liabilities:	
Derivative financial instruments	$ 43.9

The Company's derivative financial instruments consist of commodity forward contracts, foreign currency forward contracts and interest rate swaps. These instruments are measured at fair value using the market method valuation technique. The inputs to this technique utilize information related to foreign exchange rates, commodity prices and interest rates published by third party leading financial news and data providers. This is observable data; however, the valuation of these instruments is not based on actual transactions for the same instruments and, as such, they are classified as Level 2. The Company's use of derivatives and hedging policies are more fully discussed in Note 11.

The Company has currently chosen not to elect the fair value option for any items that are not already required to be measured at fair value in accordance with accounting principles generally accepted in the United States of America.

The carrying amounts of other financial instruments not listed in the table below approximate fair value due to the short-term nature of these items. The carrying amounts and estimated fair values of the Company's financial instruments not recorded at fair value in the financial statements were as follows:

	December 31, 2016	June 30, 2016

($ in millions)	Carrying Value	Fair Value	Carrying Value	Fair Value
Long-term debt	$604.0	$596.6	$611.3	$597.7
Company-owned life insurance	$14.6	$14.6	$14.0	$14.0

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The carrying amount of company-owned life insurance reflects cash surrender values based upon the market values of underlying securities, using Level 2 inputs, net of any outstanding policy loans. The carrying value associated with the cash surrender value of these policies is recorded in other assets in the accompanying consolidated balance sheets.

The fair values of long-term debt as of December 31, 2016 and June 30, 2016 were determined by using current interest rates for debt with terms and maturities similar to the Company’s existing debt arrangements and accordingly would be classified as Level 2 inputs in the fair value hierarchy.

11. Derivatives and Hedging Activities

The Company uses commodity forwards, interest rate swaps, forward interest rate swaps and foreign currency forwards to manage risks generally associated with commodity price, interest rate and foreign currency rate fluctuations. The following explains the various types of derivatives and includes a recap about the impact the derivative instruments had on the Company’s financial position, results of operations and cash flows.

Cash Flow Hedging — Commodity forward contracts: The Company enters into commodity forward contracts to fix the price of a portion of anticipated future purchases of certain critical raw materials and energy to manage the risk of cash flow variability associated with volatile commodity prices. The commodity forward contracts have been designated as cash flow hedges. The qualifying hedge contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in accumulated other comprehensive income (loss) (“AOCI”) to the extent effective, and reclassified to cost of sales in the period during which the hedged transaction affects earnings or it becomes probable that the forecasted transaction will not occur. As of December 31, 2016, the Company had forward contracts to purchase 19.3 million pounds of certain raw materials with settlement dates through December 2023.

Cash Flow Hedging — Forward interest rate swaps: Historically, the Company has entered into forward interest rate swap contracts to manage the risk of cash flow variability associated with fixed interest debt expected to be issued. The forward interest rate swaps were designated as cash flow hedges. The qualifying hedge contracts were marked-to-market at each reporting date and any unrealized gains or losses were included in AOCI to the extent effective, and reclassified to interest expense in the period during which the hedged transaction affected earnings or it became probable that the forecasted transaction would not occur. Upon the issuance of the fixed rate debt, the forward interest rate swap contracts were terminated. The realized gains at the time the interest rate swap contracts were terminated are being amortized over the term of the underlying debt. For the three months ended December 31, 2016 and 2015, net gains of $0.1 million and $0.1 million, respectively, related to the previously terminated contracts were recorded as a reduction to interest expense. For the six months ended December 31, 2016 and 2015, net gains of $0.2 million and $0.2 million, respectively, related to the previously terminated contracts were recorded as a reduction to interest expense.

Cash Flow Hedging — Foreign currency forward contracts: The Company uses foreign currency forward contracts to hedge a portion of anticipated future sales denominated in foreign currencies, principally the Euro and Pound Sterling, in order to offset the effect of changes in exchange rates. The qualifying hedge contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective, and reclassified to net sales in the period during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur.

The Company also uses foreign currency forward contracts to protect certain short-term asset positions denominated in foreign currencies against the effect of changes in exchange rates. These positions do not qualify for hedge accounting and accordingly are marked-to-market at each reporting date through charges to other income and expense. As of December 31, 2016 and June 30, 2016, the fair value of the outstanding foreign currency forwards not designated as hedging instruments and the charges to income for changes in fair value for these contracts were not material.

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Fair Value Hedging - Interest rate swaps: The Company uses interest rate swaps to achieve a level of floating rate debt relative to fixed rate debt where appropriate. The Company has designated fixed to floating interest rate swaps as fair value hedges. Accordingly, the changes in the fair value of these instruments are immediately recorded in earnings. The mark-to-market values of both the fair value hedging instruments and the underlying debt obligations are recorded as equal and offsetting gains and losses in interest expense in the consolidated statements of income. As of December 31, 2016 and June 30, 2016, the total notional amount of floating interest rate contracts was $150.0 million. For the three months ended December 31, 2016 and 2015, net gains of $0.5 million and $0.6 million, respectively, were recorded as a reduction to interest expense. For the six months ended December 31, 2016 and 2015, net gains of $0.9 million and $1.3 million, respectively, were recorded as a reduction to interest expense.

The fair value and location of outstanding derivative contracts recorded in the accompanying consolidated balance sheets were as follows as of December 31, 2016 and June 30, 2016:

December 31, 2016 ($ in millions)	Interest Rate Swaps	Foreign Currency Contracts	Commodity Contracts	Total Derivatives
Asset Derivatives:				
Derivatives designated as hedging instruments:				
Other current assets	$ 0.9	$ 1.0	$ 1.4	$ 3.3
Other assets	2.1	—	0.1	2.2
Total asset derivatives	$ 3.0	$ 1.0	$ 1.5	$ 5.5
Liability Derivatives:				
Derivatives designated as hedging instruments:				
Accrued liabilities	$ —	$ 0.1	$ 15.1	$ 15.2
Other liabilities	—	—	3.7	3.7
Total liability derivatives	$ —	$ 0.1	$ 18.8	$ 18.9

June 30, 2016 ($ in millions)	Interest Rate Swaps	Foreign Currency Contracts	Commodity Contracts	Total Derivatives
Asset Derivatives:				
Derivatives designated as hedging instruments:				
Other current assets	$ 1.2	$ 0.3	$ 0.6	$ 2.1
Other assets	9.7	—	—	9.7
Total asset derivatives	$ 10.9	$ 0.3	$ 0.6	$ 11.8
Liability Derivatives:				
Derivatives designated as hedging instruments:				
Accrued liabilities	$ —	$ 0.3	$ 31.3	$ 31.6
Other liabilities	—	—	12.3	12.3
Total liability derivatives	$ —	$ 0.3	$ 43.6	$ 43.9

Substantially all of the derivative contracts are subject to master netting arrangements, or similar agreements with each counterparty, which provide for the option to settle contracts on a net basis when they settle on the same day and in the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event.

The Company presents the outstanding derivative contracts on a net basis by counterparty in the consolidated balance sheets. If the Company had chosen to present the derivative contracts on a gross basis, the total asset derivatives would have been $8.3 million and total liability derivatives would have been $21.7 million as of December 31, 2016.

According to the provisions of the Company’s derivative arrangements, in the event that the fair value of outstanding derivative positions with certain counterparties exceeds certain thresholds, the Company may be required to issue cash collateral to the counterparties. As of December 31, 2016 and June 30, 2016, the Company had no cash collateral held by counterparties.

The Company is exposed to credit loss in the event of nonperformance by counterparties on its derivative instruments as well as credit or performance risk with respect to its customer commitments to perform. Although nonperformance is possible, the Company does not anticipate nonperformance by any of the parties. In addition, various master netting arrangements are in place with counterparties to facilitate settlements of gains and losses on these contracts.

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Cash Flow Hedges

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of AOCI and reclassified into earnings in the same period or periods during which the hedged transactions affect earnings or it becomes probable the forecasted transactions will not occur. The following is a summary of the gains (losses) related to cash flow hedges recognized during the three and six months ended December 31, 2016 and 2015:

	Amount of (Loss) Gain Recognized in AOCI on Derivatives (Effective Portion)			
	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Derivatives in Cash Flow Hedging Relationship:				
Commodity contracts	$(22.5)	$(20.2)	$(15.4)	$(38.7)
Foreign exchange contracts	0.6	0.3	0.6	0.5
Total	$(21.9)	$(19.9)	$(14.8)	$(38.2)

($ in millions)	Location of (Loss) Gain Reclassified from AOCI into Income	Amount of (Loss) Gain Reclassified from AOCI into Income (Effective Portion) Three Months Ended December 31,		Amount of Gain Reclassified from AOCI into Income (Ineffective Portion) Three Months Ended December 31,	
		2016	2015	2016	2015
Derivatives in Cash Flow Hedging Relationship:					
Commodity contracts	Cost of sales	$ (7.9)	$ (11.1)	$ —	$ 1.0
Foreign exchange contracts	Net sales	0.5	0.2	—	—
Forward interest rate swaps	Interest expense	0.1	0.1	—	—
Total		$ (7.3)	$ (10.8)	$ —	$ 1.0

($ in millions)	Location of (Loss) Gain Reclassified from AOCI into Income	Amount of (Loss) Gain Reclassified from AOCI into Income (Effective Portion) Six Months Ended December 31,		Amount of Gain Reclassified from AOCI into Income (Ineffective Portion) Six Months Ended December 31,	
		2016	2015	2016	2015

Derivatives in Cash Flow Hedging Relationship:					
Commodity contracts	Cost of sales	$ (18.0)	$ (20.5)	$ 0.5	$ 1.0
Foreign exchange contracts	Net sales	0.6	0.1	—	—
Forward interest rate swaps	Interest expense	0.2	0.2	—	—
Total		$ (17.2)	$ (20.2)	$ 0.5	$ 1.0

The Company estimates that $10.3 million of net derivative losses included in AOCI as of December 31, 2016 will be reclassified into income within the next 12 months. No significant cash flow hedges were discontinued during the three and six months ended December 31, 2016.

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12. Other Income (Expense), Net

Other income (expense), net consisted of the following:

	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Foreign exchange	$(0.2)	$(0.8)	$(0.2)	$(2.0)
Unrealized gains (losses) on company-owned life insurance contracts and investments held in rabbi trusts	0.3	0.7	0.8	(0.6)
Equity in earnings of unconsolidated subsidiaries	—	0.3	—	0.6
Other	0.2	0.1	0.4	0.1
Total other income (expense), net	$0.3	$0.3	$1.0	$(1.9)

13. Income Taxes

The effective tax rate used for interim periods is the estimated annual effective consolidated tax rate, based on the current estimate of full year results, except that taxes related to specific events, if any, are recorded in the interim period in which they occur.

Income tax expense for the three months ended December 31, 2016 was $1.3 million, or 15.7 percent of pre-tax income as compared with $3.6 million, or 23.8 percent of pre-tax income for the three months ended December 31, 2015. Income tax expense for the six months ended December 31, 2016 was $2.2 million or 73.3 percent of pre-tax income as compared with $10.8 million, or 34.6 percent of pre-tax income for the six months ended December 31, 2015.

Income tax expense in the current quarter includes tax benefits of $0.9 million associated with the repatriation of earnings from one of our foreign subsidiaries. Income tax expense also includes a $0.3 million benefit primarily due to additional research and development credits claimed in the prior year. Income tax expense for the three months ended December 31, 2015 includes a tax benefit of $0.8 million primarily for additional research and development credits as a result of the December 2015 enactment of the Protecting Americans from Tax Hikes Act of 2015.

In October 2016, the Company made a voluntary pension contribution of $100.0 million that was announced in connection with the plan freeze. As a result of the pension contribution, income tax expense in the six months ended December 31, 2016 includes a discrete tax charge of $2.1 million due to reduced tax benefits for domestic manufacturing claimed in prior periods. Tax expense for the six months ended December 31, 2015 includes a tax charge of $2.0 million for the deferred tax liability on unremitted foreign earnings of one of our foreign subsidiaries as a result of a decision to sell an equity method investment in India.

As of June 30, 2016, the Company had $106.5 million of indefinitely reinvested foreign earnings for which deferred income taxes have not been provided. Due to a change in foreign cash requirements, the Company has changed its intent with regard to the indefinite reinvestment of foreign earnings of one of its foreign subsidiaries. As a result of this change, the Company repatriated $11.5 million of foreign earnings during the three months ended December 31, 2016 and recognized associated tax benefits of $0.9 million. The remaining balance, approximately $95.0 million, of undistributed foreign earnings continues to be indefinitely reinvested.

14. Business Segments

The Company has two reportable segments, Specialty Alloys Operations ("SAO") and Performance Engineered Products ("PEP").

The SAO segment is comprised of the Company's major premium alloy and stainless steel manufacturing operations. This includes operations performed at mills primarily in Reading and Latrobe, Pennsylvania and surrounding areas as well as South Carolina and Alabama. The combined assets of the SAO operations are being managed in an integrated manner to optimize efficiency and profitability across the total system.

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The PEP segment is comprised of the Company's differentiated operations. This segment includes the Dynamet titanium business, the Carpenter Powder Products business, the Amega West business, the Specialty Steel Supply business, and the Latrobe and Mexico distribution businesses. The businesses in the PEP segment are managed with an entrepreneurial structure to promote flexibility and agility to quickly respond to market dynamics.

The Company's executive management evaluates the performance of these operating segments based on sales, operating income and cash flow generation. Segment operating profit excludes general corporate costs, which include executive and director compensation, and other corporate facilities and administrative expenses not allocated to the segments. Also excluded are items that management considers not representative of ongoing operations, such as excess inventory write-downs, restructuring and asset impairment charges, goodwill impairment and other specifically-identified income or expense items.

The service cost component of the Company's net pension expense, which represents the estimated cost of future pension liabilities earned associated with active employees, is included in the operating income of the business segments. The residual net pension expense, which is comprised of the expected return on plan assets, interest costs on the projected benefit obligations of the plans and amortization of actuarial gains and losses and prior service costs, is included under the heading "Pension earnings, interest and deferrals".

On a consolidated basis, one customer, Arconic, Inc., accounted for approximately 17 percent and 15 percent of the net sales for the three and six months ended December 31, 2016, respectively. On a consolidated basis, one customer, Alcoa Inc., accounted for approximately 14 percent of the net sales for the three and six months ended December 31, 2015. Approximately 23 percent of the accounts receivable outstanding at December 31, 2016 is due from one customers, Arconic, Inc. Approximately 22 percent of the accounts receivable outstanding at June 30, 2016, respectively, is due from two customers, Alcoa Inc. and Precision Castparts Corporation.

Segment Data	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Net Sales:				
Specialty Alloys Operations	$348.6	$363.6	$663.7	$736.2
Performance Engineered Products	83.2	85.4	161.7	177.0
Intersegment	(4.4)	(5.2)	(9.1)	(13.8)
Consolidated net sales	$427.4	$443.8	$816.3	$899.4

Segment Data	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Operating Income:				
Specialty Alloys Operations	$35.6	$41.5	$60.6	$82.7
Performance Engineered Products	0.8	(2.9)	(2.0)	(3.3)
Corporate costs	(16.0)	(12.7)	(29.8)	(24.8)
Pension earnings, interest and deferrals	(5.6)	(4.8)	(12.7)	(9.6)
Intersegment	0.6	0.7	0.7	1.7
Consolidated operating income	$15.4	$21.8	$16.8	$46.7

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Segment Data	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Depreciation and Amortization:				
Specialty Alloys Operations	$23.7	$23.9	$47.2	$47.4
Performance Engineered Products	5.2	5.7	10.3	11.4
Corporate	0.9	0.9	1.7	1.9
Intersegment	0.1	(0.2)	(0.5)	(0.4)
Consolidated depreciation and amortization	$29.9	$30.3	$58.7	$60.3

Segment Data	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Capital Expenditures:				
Specialty Alloys Operations	$8.3	$17.0	$23.0	$36.7
Performance Engineered Products	2.5	2.2	7.0	11.3
Corporate	7.7	0.5	15.2	1.6
Intersegment	—	(0.1)	(0.1)	(0.1)
Consolidated capital expenditures	$18.5	$19.6	$45.1	$49.5

Segment Data	December 31,	June 30,
($ in millions)	2016	2016
Total Assets:		
Specialty Alloys Operations	$ 2,267.6	$2,256.5
Performance Engineered Products	408.2	415.8
Corporate	119.8	151.3
Intersegment	(18.2)	(29.3)
Consolidated total assets	$ 2,777.4	$2,794.3

15. Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2014-09, Revenue from Contracts with Customers (Topic 606). The guidance in ASU 2014-09 requires that an entity should recognize revenue to depict the transfer of promised goods or services 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 guidance in ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. In August 2015, the FASB issued ASU 2015-14, which defers the effective date of this guidance by one year. As such, the Company is required to adopt this standard for its interim and annual periods beginning after December 15, 2017. Early adoption is permitted for interim and annual periods beginning after December 15, 2016. The Company is evaluating the impact of the adoption of ASU 2014-09 on the consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02 Leases (Topic 842). ASU 2016-02 improves transparency and comparability among companies by recognizing lease assets and lease liabilities on the balance sheet and by disclosing key information about leasing arrangements. ASU 2016-02 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2018, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-02 on the consolidated financial statements.

In March 2016, the FASB issued ASU 2016-08 Revenue from Contracts with Customers (Topic 606) - Principal versus Agent Considerations (Reporting Revenue Gross versus Net). ASU 2016-08 requires an entity to determine whether the nature of its promise to provide goods or services to a customer is performed in a principal or agent capacity and to recognize revenue in a gross or net manner based on its principal/agent designation. ASU 2016-08 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-08 on the consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, Compensation — Stock Compensation (Topic 718) - Improvements to Employee Share-Based Payment Accounting, which outlines new provisions intended to simplify various aspects related to accounting for share-based payments and their presentation in the financial statements. ASU 2016-09 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2016, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-09 on the consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230) - Classification of Certain Cash Receipts and Cash Payments, which outlines new provisions intended to reduce the existing diversity in practice related to accounting for the cash flow and its presentation in the financial statements. ASU 2016-15 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-15 on the consolidated financial statements.

In October 2016, the FASB issued ASU 2016-16, Income Taxes (Topic 740) - Intra-Entity Transfers of Assets Other Than Inventory, which outlines updates to improve the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. ASU 2016-16 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-16 on the consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, Statement of Cash Flows (Topic 230) - Restricted Cash, which outlines that a statement of cash flows explains the change during the period in total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. ASU 2016-18 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017, with early application permitted. The Company is evaluating the impact of the adoption of ASU 2016-18 on the consolidated financial statements.

16. Reclassifications from Accumulated Other Comprehensive (Loss) Income

The changes in AOCI by component, net of tax, for the three months ended December 31, 2016 and 2015 were as follows:

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Three Months Ended December 31, 2016 ($ in millions) (a)	Cash flow hedging items	Pension and other postretirement benefit plan items	Unrealized losses on available-for-sale securities	Foreign currency items	Total
Balance at September 30, 2016	$ (11.0)	$ (326.9)	$ (0.3)	$ (44.2)	$ (382.4)
Other comprehensive loss before reclassifications	(0.6)	—	—	(4.0)	(4.6)
Amounts reclassified from AOCI (b)	4.4	5.7	—	—	10.1
Net other comprehensive income (loss)	3.8	5.7	—	(4.0)	5.5
Balance at December 31, 2016	$ (7.2)	$ (321.2)	$ (0.3)	$ (48.2)	$ (376.9)

Three Months Ended December 31, 2015 ($ in millions) (a)	Cash flow hedging items	Pension and other postretirement benefit plan items	Unrealized losses on available-for-sale securities	Foreign currency items	Total
Balance at September 30, 2015	$ (34.0)	$ (253.1)	$ (0.3)	$ (45.9)	$ (333.3)
Other comprehensive loss before reclassifications	(12.4)	—	—	(2.3)	(14.7)
Amounts reclassified from AOCI (b)	6.7	3.7	—	—	10.4
Net other comprehensive (loss) income	(5.7)	3.7	—	(2.3)	(4.3)
Balance at December 31, 2015	$ (39.7)	$ (249.4)	$ (0.3)	$ (48.2)	$ (337.6)

(a) All amounts are net of tax. Amounts in parentheses indicate debits.
(b) See separate table below for further details.

The changes in AOCI by component, net of tax, for the six months ended December 31, 2016 and 2015 were as follows:

Six Months Ended December 31, 2016 ($ in millions) (a)	Cash flow hedging items	Pension and other postretirement benefit plan items	Unrealized losses on available-for-sale securities	Foreign currency items	Total
Balance at June 30, 2016	$ (21.8)	$ (344.3)	$ (0.3)	$ (43.5)	$ (409.9)
Other comprehensive income (loss) before reclassifications	3.9	11.4	—	(4.7)	10.6
Amounts reclassified from AOCI (b)	10.7	11.7	—	—	22.4
Net current-period other comprehensive income (loss)	14.6	23.1	—	(4.7)	33.0
Balance at December 31, 2016	$ (7.2)	$ (321.2)	$ (0.3)	$ (48.2)	$ (376.9)

Six Months Ended December 31, 2015 ($ in millions) (a)	Cash flow hedging items	Pension and other postretirement benefit plan items	Unrealized losses on available-for-sale securities	Foreign currency items	Total
Balance at June 30, 2015	$ (28.5)	$ (256.8)	$ (0.3)	$ (42.6)	$ (328.2)

Other comprehensive (loss) before reclassifications	(23.8)	—	—	(5.6)	(29.4)
Amounts reclassified from AOCI (b)	12.6	7.4	—	—	20.0
Net current-period other comprehensive (loss) income	(11.2)	7.4	—	(5.6)	(9.4)
Balance at December 31, 2015	$ (39.7)	$ (249.4)	$ (0.3)	$ (48.2)	$ (337.6)

The following is a summary of amounts reclassified from AOCI for the three and six months ended December 31, 2016 and 2015:

($ in millions) (a)	Location of (loss) gain	Amount Reclassified from AOCI Three Months Ended December 31,		Amount Reclassified from AOCI Six Months Ended December 31,	
Details about AOCI Components		2016	2015	2016	2015
Cash flow hedging items:					
Commodity contracts	Cost of sales	$(7.9)	$(11.1)	$(18.0)	$(20.5)
Foreign exchange contracts	Net sales	0.5	0.2	0.6	0.1
Forward interest rate swaps	Interest expense	0.1	0.1	0.2	0.2
	Total before tax	(7.3)	(10.8)	(17.2)	(20.2)
	Tax benefit	2.9	4.1	6.5	7.6
	Net of tax	$(4.4)	$(6.7)	$(10.7)	$(12.6)

($ in millions) (a)	Location of (loss) gain	Amount Reclassified from AOCI Three Months Ended December 31,		Amount Reclassified from AOCI Six Months Ended December 31,	
Details about AOCI Components		2016	2015	2016	2015
Amortization of pension and other postretirement benefit plan items:					
Net actuarial loss	(b)	$(10.3)	$(7.5)	$(20.5)	$(15.1)
Prior service cost	(b)	1.1	1.5	2.4	3.1
Curtailment charge	(b)	—	—	(0.5)	—
	Total before tax	(9.2)	(6.0)	(18.6)	(12.0)
	Tax benefit	3.5	2.3	6.9	4.6
	Net of tax	$(5.7)	$(3.7)	$(11.7)	$(7.4)

(a) Amounts in parentheses indicate debits to income/loss.
(b) These AOCI components are included in the computation of net periodic benefit cost (see Note 6. Pension and Other Postretirement Benefits for additional details).

17. Subsequent Event

On January 30, 2017, the Company entered into a definitive asset purchase agreement for the purchase of substantially all of the assets of Puris LLC, a producer of titanium powder for additive manufacturing and advanced technology applications, for a purchase price of $35.0 million in cash. The transaction is subject to customary closing conditions.

Closing is expected to occur during the quarter ending March 31, 2017.

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

Background and General

We are engaged in the manufacturing, fabrication and distribution of specialty metals. We primarily process basic raw materials such as nickel, cobalt, titanium, manganese, chromium, molybdenum, iron scrap and other metal alloying elements through various melting, hot forming and cold working facilities to produce finished products in the form of billet, bar, rod, wire and narrow strip in many sizes and finishes. We also produce certain metal powders. Our sales are distributed directly from our production plants and distribution network as well as through independent distributors. Unlike many other specialty steel producers, we operate our own worldwide network of service and distribution centers. These service centers, located in the United States, Canada, Mexico, Europe and Asia allow us to work more closely with customers and to offer various just-in-time stocking programs. We also manufacture and rent down-hole drilling tools and components used in the oil and gas industry.

As part of our overall business strategy, we have sought out and considered opportunities related to strategic acquisitions, divestitures and joint collaborations as well as possible business unit dispositions aimed at broadening our offering to the marketplace. We have participated with other companies to explore potential terms and structures of such opportunities and expect that we will continue to evaluate these opportunities.

Our discussions below in this Item 2 are based upon the more detailed discussions about our business, operations and financial condition included in Item 7 of our 2016 Form 10-K. Our discussions here focus on our results during or as of the three and six-month periods ended December 31, 2016 and the comparable periods of fiscal year 2016, and to the extent applicable, on material changes from information discussed in the 2016 Form 10-K and other important intervening developments or information that we have reported on Form 8-K. These discussions should be read in conjunction with the 2016 Form 10-K for detailed background information and with any such intervening Form 8-K.

Impact of Raw Material Prices and Product Mix

We value most of our inventory utilizing the last-in, first-out ("LIFO") inventory costing methodology. Under the LIFO inventory costing method, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period even though these materials may potentially have been acquired at significantly different values due to the length of time from the acquisition of the raw materials to the sale of the processed finished goods to the customers. In a period of rising raw material costs, the LIFO inventory valuation normally results in higher cost of sales. Conversely, in a period of decreasing raw material costs, the LIFO inventory valuation normally results in lower cost of sales.

The volatility of the costs of raw materials has impacted our operations over the past several years. We, and others in our industry, generally have been able to pass cost increases on major raw materials through to our customers using surcharges that are structured to recover increases in raw material costs. Generally, the formula used to calculate a surcharge is based on published prices of the respective raw materials for the previous month which correlates to the prices we pay for our raw material purchases. However, a portion of our surcharges to customers may be calculated using a different surcharge formula or may be based on the raw material prices at the time of order, which creates a lag between surcharge revenue and corresponding raw material costs recognized in cost of sales. The surcharge mechanism protects our net income on such sales except for the lag effect discussed above. However, surcharges have had a dilutive effect on our gross margin and operating margin percentages as described later in this report.

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Approximately 25 percent of our net sales are sales to customers under firm price sales arrangements. Firm price sales arrangements involve a risk of profit margin fluctuations, particularly when raw material prices are volatile. In order to reduce the risk of fluctuating profit margins on these sales, we enter into commodity forward contracts to purchase certain critical raw materials necessary to produce the related products sold. Firm price sales arrangements generally include certain annual purchasing commitments and consumption schedules agreed to by the customers at selling prices based on raw material prices at the time the arrangements are established. If a customer fails to meet the volume commitments (or the consumption schedule deviates from the agreed-upon terms of the firm price sales arrangements), the Company may need to absorb the gains or losses associated with the commodity forward contracts on a temporary basis. Gains or losses associated with commodity forward contracts are reclassified to earnings/loss when earnings are impacted by the hedged transaction. Because we value most of our inventory under the LIFO costing methodology, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period attempting to match the most recently incurred costs with revenues. Gains or losses on the commodity forward contracts are reclassified from other comprehensive income (loss) together with the actual purchase price of the underlying commodities when the underlying commodities are purchased and recorded in inventory. To the extent that the total purchase price of the commodities, inclusive of the gains or losses on the commodity forward contracts, are higher or lower relative to the beginning of year costs, our cost of goods sold reflects such amounts. Accordingly, the gains and/or losses associated with commodity forward contracts may not impact the same period that the firm price sales arrangements revenue is recognized, and comparisons of gross profit from period to period may be impacted. These firm price sales arrangements are expected to continue as we look to strengthen our long-term customer relationships by expanding, renewing and in certain cases extending to a longer-term, our customer long-term arrangements.

We produce hundreds of grades of materials with a wide range of pricing and profit levels depending on the grade. In addition, our product mix within a period is subject to the fluctuating order patterns of our customers as well as decisions we may make on participation in certain products based on available capacity, including the impacts of capacity commitments we may have under existing customer agreements. While we expect to see positive contribution from a more favorable product mix in our margin performance over time, the impact by period may fluctuate and period-to-period comparisons may vary.

Net Pension Expense

Net pension expense, as we define it below, includes the net periodic benefit costs related to both our pension and other postretirement plans. The net periodic benefit costs are determined annually based on beginning of year balances and are recorded ratably throughout the fiscal year, unless a significant re-measurement event occurs. We currently expect that the total net periodic benefit costs for fiscal year 2017 will be $48.2 million as compared with $53.8 million in fiscal year 2016. The following is the pension expense for the three and six months ended December 31, 2016 and 2015:

	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Pension plans	$13.5	$12.7	$29.6	$25.4
Other postretirement plans	0.7	0.7	1.4	1.5
Net periodic benefit costs	$14.2	$13.4	$31.0	$26.9

In September 2016, we announced changes to retirement plans we offer to certain employees. The decision was consistent with addressing costs and actively managing the business. Benefits accrued to eligible participants of our largest qualified defined benefit pension plan and certain non-qualified pension plans were frozen effective December 31, 2016. Approximately 1,900 affected employees were transitioned to the Company’s 401(k) plan that has been in effect for eligible employees since 2012, when the pension plan was closed to new entrants. We recognized the plan freeze in the three months ended September 30, 2016 as a curtailment, since it eliminates the accrual for a significant number of participants for all of their future services. We also made a voluntary pension contribution of $100.0 million to the affected plan in October 2016.

The service cost component of net pension expense represents the estimated cost of future pension liabilities earned associated with active employees. The pension earnings, interest and deferrals (“pension EID”) is comprised of the expected return on plan assets, interest costs on the projected benefit obligations of the plans and amortization of actuarial gains and losses and prior service costs.

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Net pension expense is recorded in accounts that are included in both the cost of sales and selling, general and administrative expenses based on the function of the associated employees. The following is a summary of the classification of net pension expense for the three and six months ended December 31, 2016 and 2015:

	Three Months Ended December 31,		Six Months Ended December 31,	
($ in millions)	2016	2015	2016	2015
Cost of sales:				
Service cost	$7.2	$7.0	$14.8	$14.1
Pension earnings, interest and deferrals	3.8	3.3	8.9	6.6
	11.0	10.3	23.7	20.7
Selling, general and administrative expenses:				
Service cost	1.4	1.6	3.0	3.2
Pension earnings, interest and deferrals	1.8	1.5	3.8	3.0
Curtailment charge	—	—	0.5	—
	3.2	3.1	7.3	6.2
Net pension expense	$14.2	$13.4	$31.0	$26.9

As of December 31, 2016 and June 30, 2016, amounts capitalized in gross inventory were $12.0 million and $10.6 million, respectively.

Operating Performance Overview

The results for the second quarter of fiscal year 2017 were impacted by a stronger product mix and an improving environment across several of our end-use markets, most notably Aerospace and Defense, where we are benefiting from solid demand from the new engine platforms coupled with our strong market position in other key sub-markets including fasteners and structural applications. The Energy end-use market is continuing to show signs of recovery and we remain focused on strengthening our competitive position to fully capitalize on our market position as industry volume increases. Our progress to date is reflected in the positive operating income we achieved at our Performance Engineered Products (PEP) segment, the first time in six quarters. As market demand improves, we expect to further benefit from operating margin leverage at PEP driven by the efficiency gains we have generated over the past several years as well as our strengthened customer relationships and improved product offerings.

We remain committed to actively managing our business, including further implementing the Carpenter Operating Model across our operations as we seek additional cost efficiencies and productivity enhancements. Our realigned commercial group is executing our market focused strategy and expanding the applications for our high-value products, deepening our customer relationships and introducing our advanced capabilities and solutions, as evidenced by our backlog growth. Through these initiatives, we believe we are well positioned to deliver market share, revenue and profitability growth as our end-use markets continue to recover and we further expand our product offerings in areas such as titanium powder.

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Results of Operations — Three Months Ended December 31, 2016 vs. Three Months Ended December 31, 2015

For the three months ended December 31, 2016, we reported net income of $7.0 million, or $0.15 earnings per diluted share. This compares with net income for the same period a year earlier of $11.5 million, or $0.23 earnings per diluted share. Excluding special items, earnings per share would have been $0.24 per diluted share for the three months ended December 31, 2015. The current period results reflect the impact of lower volumes partially offset by stronger product mix and lower operating costs.

Net Sales

Net sales for the three months ended December 31, 2016 were $427.4 million, which was a 4 percent decrease over the same period a year ago. Excluding surcharge revenue, sales decreased 3 percent on a 6 percent decrease in shipment volume from the same period a year ago. The results primarily reflect stronger product mix and lower demand for materials primarily used in the Transportation and Industrial and Consumer end-use markets.

Geographically, sales outside the United States increased 5 percent from the same period a year ago to $137.2 million for the three months ended December 31, 2016. The increase is primarily due to net sales to Europe in the Aerospace and Defense end-use markets partially offset by a decrease in net sales to Asia in the Aerospace and Defense and Industrial and Consumer end-use markets. A portion of our sales outside the United States are denominated in foreign currencies. The impact of fluctuations in foreign currency exchange rates resulted in a $1.4 million decrease in sales during the three months ended December 31, 2016 compared to the three months ended December 31, 2015. International sales represented 32 percent and 30 percent of total net sales for the three months ended December 31, 2016 and 2015, respectively.

As a result of the realignment of the commercial team during fiscal year 2016, we changed the manner in which sales are classified by end-use market so that we could better evaluate our sales results from period to period. In order to make the discussion of sales by end-use market meaningful, we have reclassified the sales by end-use market for the prior periods to conform to the current presentation.

Sales by End-Use Markets

We sell to customers across diversified end-use markets. The following table includes comparative information for our net sales, which includes surcharge revenue by principal end-use markets. We believe this is helpful supplemental information in analyzing the performance of the business from period to period:

($ in millions)	Three Months Ended December 31, 2016	2015	$ (Decrease) Increase	% (Decrease) Increase
Aerospace and Defense	$242.7	$245.6	$ (2.9)	(1)%
Energy	30.1	29.3	0.8	3 %
Transportation	33.5	39.1	(5.6)	(14)%
Medical	26.8	29.4	(2.6)	(9)%
Industrial and Consumer	66.6	72.1	(5.5)	(8)%
Distribution	27.7	28.3	(0.6)	(2)%
Total net sales	$427.4	$443.8	$ (16.4)	(4)%

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The following table includes comparative information for our net sales by the same principal end-use markets, but excluding surcharge revenue:

($ in millions)	Three Months Ended December 31, 2016	2015	$ (Decrease) Increase	% (Decrease) Increase
Aerospace and Defense	$199.0	$201.4	$ (2.4)	(1)%
Energy	27.1	25.9	1.2	5 %
Transportation	28.7	33.3	(4.6)	(14)%
Medical	25.1	27.7	(2.6)	(9)%
Industrial and Consumer	59.2	62.9	(3.7)	(6)%
Distribution	27.6	28.2	(0.6)	(2)%
Total net sales excluding surcharge	$366.7	$379.4	$ (12.7)	(3)%

Sales to the Aerospace and Defense end-use market decreased 1 percent from the second quarter a year ago to $242.7 million. Excluding surcharge revenue, sales decreased 1 percent from the second quarter a year ago on a 1 percent decrease in shipment volume. The results reflect strong demand for engines driven by increasing demand from new engine platforms offset by a decrease in sales of materials used in fasteners and structural applications due to supply chain consolidation.

Sales to the Energy end-use market of $30.1 million reflect a 3 percent increase from the second quarter a year ago. Excluding surcharge revenue, sales increased 5 percent from a year ago on higher shipment volume of 6 percent. The results reflect strong demand for power generation materials partially offset by lower oil and gas sub-market results. The North American quarterly average directional and horizontal rig count, an indicator of drilling activity, decreased 14 percent from the same period a year ago.

Transportation end-use market sales decreased 14 percent from the second quarter a year ago to $33.5 million. Excluding surcharge revenue, sales decreased 14 percent on 20 percent lower shipment volume from the second quarter a year ago. The results reflect a weaker demand for heavy duty on-road and off-road truck production combined with growth of light vehicle production demand slowing.

Medical end-use market sales decreased 9 percent from the second quarter a year ago to $26.8 million. Excluding surcharge revenue, sales decreased 9 percent on 16 percent lower shipment volume from the second quarter a year ago. The results reflect a favorable shift in product mix towards higher value products and increased titanium opportunities which creates increased demand for our premium products.

Industrial and Consumer end-use market sales decreased 8 percent from the second quarter a year ago to $66.6 million. Excluding surcharge revenue, sales decreased 6 percent on a 10 percent decrease in shipment volume. The results reflect weak demand for consumer electronic applications partially offset by stronger demand for materials used in valves and fittings applications.

Gross Profit

Our gross profit in the second quarter decreased 6 percent to $62.5 million, or 14.6 percent of net sales as compared with $66.3 million, or 14.9 percent of net sales in the same quarter a year ago. Excluding the impacts of the surcharge revenue, our gross margin in the second quarter was 17.0 percent as compared 17.5 percent in the same period a year ago. The current quarter results reflect lower volumes partially offset by stronger product mix and operating cost efficiencies compared to the same period a year ago.

Our surcharge mechanism is structured to recover increases in raw material costs, although in certain cases with a lag effect as discussed above. While the surcharge generally protects the absolute gross profit dollars, it does have a dilutive effect on gross margin as a percent of sales. The following represents a summary of the dilutive impact of the surcharge on gross margin for the comparative three month periods. See the section “Non-GAAP Financial Measures” below for further discussion of these financial measures.

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	Three Months Ended December 31,	
($ in millions)	2016	2015
Net sales	$427.4	$443.8
Less: surcharge revenue	60.7	64.4
Net sales excluding surcharge revenue	$366.7	$379.4
Gross profit	$62.5	$66.3
Gross margin	14.6 %	14.9 %
Gross margin excluding surcharge revenue	17.0 %	17.5 %

Selling, General and Administrative Expenses

Selling, general and administrative expenses of $47.1 million were 11.0 percent of net sales (12.8 percent of net sales excluding surcharge) as compared with $44.5 million and 10.0 percent of net sales (11.7 percent of net sales excluding surcharge) in the same quarter a year ago.

Operating Income

Our operating income in the recent second quarter was $15.4 million or 3.6 percent of net sales as compared with operating income of $21.8 million or 4.9 percent of net sales in the same quarter a year ago. Excluding surcharge revenue, pension EID and other special items, operating margin was 5.7 percent for the current quarter as compared with 7.7 percent a year ago. The decrease in our operating margin for the second quarter of fiscal year 2017 reflects lower volume partially offset by stronger product mix and operating cost efficiencies compared to the same period a year ago.

Operating income has been significantly impacted by our pension EID, which may be volatile based on conditions in the financial markets, as well as special items. The following presents our operating income and operating margin, in each case excluding the impact of surcharge revenue on net sales, pension EID and other special items. We present and discuss these financial measures because management believes removing these items provides a more consistent and meaningful basis for comparing ongoing results of operations from period to period. See the section "Non-GAAP Financial Measures" below for further discussion of these financial measures.

	Three Months Ended December 31,	
($ in millions)	2016	2015
Net sales	$427.4	$443.8
Less: surcharge revenue	60.7	64.4
Net sales excluding surcharge revenue	$366.7	$379.4
Operating income	$15.4	$21.8
Pension EID	5.6	4.8
Operating income excluding pension EID	21.0	26.6
Special items:		

Consulting costs	—	2.6
Operating income excluding pension EID and other special items	$21.0	$29.2
Operating margin	3.6 %	4.9 %
Operating margin excluding surcharge, pension EID and other special items	5.7 %	7.7 %

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Interest Expense

Interest expense for the three months ended December 31, 2016 was $7.4 million compared with $7.0 million in the same period a year ago. We have used interest rate swaps to achieve a level of floating rate debt to fixed rate debt where appropriate. Interest expense for the three months ended December 31, 2016 includes net gains from interest rate swaps of $0.5 million compared with $0.6 million of net gains from interest rate swaps for three months ended December 31, 2015. Capitalized interest reduced interest expense by $0.3 million for the three months ended December 31, 2016 and $0.5 million for the three months ended December 31, 2015.

Other Income, Net

Other income for the three months ended December 31, 2016 was $0.3 million as compared with $0.3 million for the three months ended December 31, 2015.

Income Taxes

Income tax expense in the recent second quarter was $1.3 million, or 15.7 percent of pre-tax income versus $3.6 million, or 23.8 percent of pre-tax income in the same quarter a year ago.

Income tax expense in the current quarter includes tax benefits of $0.9 million associated with the repatriation of earnings from one of our foreign subsidiaries. Income tax expense also includes benefits of $0.3 million primarily due to additional research and development credits claimed in the prior year. Income tax expense in the prior year includes net tax benefits of $0.8 million primarily for additional research and development credits as a result of the enactment of the Protecting Americans from Tax Hikes Act of 2015.

Business Segment Results

We have two reportable business segments: SAO and PEP.

The following table includes comparative information for volumes by business segment:

(Pounds sold, in thousands)	Three Months Ended December 31, 2016	2015	(Decrease) Increase	% (Decrease) Increase
Specialty Alloys Operations	51,314	54,794	(3,480)	(6)%
Performance Engineered Products *	2,350	2,800	(450)	(16)%
Intersegment	(378)	(666)	288	43 %
Consolidated pounds sold	53,286	56,928	(3,642)	(6)%

* Pounds sold data for PEP segment includes Dynamet and Carpenter Powder Products businesses only.

The following table includes comparative information for net sales by business segment:

($ in millions)	Three Months Ended December 31, 2016	2015	$ (Decrease) Increase	% (Decrease) Increase

Specialty Alloys Operations	$348.6	$363.6	$ (15.0)	(4)%
Performance Engineered Products	83.2	85.4	(2.2)	(3)%
Intersegment	(4.4)	(5.2)	0.8	15 %
Total net sales	$427.4	$443.8	$ (16.4)	(4)%

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The following table includes comparative information for our net sales by business segment, but excluding surcharge revenue:

($ in millions)	Three Months Ended December 31, 2016	2015	$ (Decrease) Increase	% (Decrease) Increase
Specialty Alloys Operations	$288.1	$299.2	$ (11.1)	(4)%
Performance Engineered Products	83.0	85.2	(2.2)	(3)%
Intersegment	(4.4)	(5.0)	0.6	12 %
Total net sales excluding surcharge revenue	$366.7	$379.4	$ (12.7)	(3)%

Specialty Alloys Operations Segment

Net sales for the quarter ended December 31, 2016 for the SAO segment decreased 4 percent to $348.6 million, as compared with $363.6 million in the same quarter a year ago. Excluding surcharge revenue, net sales decreased 4 percent on 6 percent lower shipment volume from a year ago. The results reflect lower demand across all end-use markets except Energy due to an increase in demand for power generation products partially offset by stronger product mix in Transportation and Industrial and Consumer end-use markets compared to the prior year quarter.

Operating income for the SAO segment was $35.6 million or 10.2 percent of net sales (12.4 percent of net sales excluding surcharge revenue) in the recent second quarter, as compared with $41.5 million or 11.4 percent of net sales (13.9 percent of net sales excluding surcharge revenue) in the same quarter a year ago. The decrease in operating income reflects lower shipments partially offset by cost improvements driven by the implementation of the Carpenter Operating Model compared to the prior year quarter.

Performance Engineered Products Segment

Net sales for the quarter ended December 31, 2016 for the PEP segment decreased 3 percent to $83.2 million, as compared with $85.4 million in the same quarter a year ago. Excluding surcharge revenue, net sales of $83.0 million decreased 3 percent from a year ago. The results reflect lower demand primarily in the Industrial and Consumer and Energy end-use markets.

Operating income for the PEP segment was $0.8 million or 1.0 percent of net sales in the recent second quarter, compared with operating loss of $2.9 million or 3.4 percent of net sales in the same quarter a year ago. The results reflect the positive impact of cost reduction initiatives and stronger mix partially offset by weakness in demand within Industrial and Consumer and Energy end-use markets.

Results of Operations — Six Months Ended December 31, 2016 vs. Six Months Ended December 31, 2015

Net Sales

Net sales for the six months ended December 31, 2016 were $816.3 million, which was a 9 percent decrease over the same period a year ago. Excluding surcharge revenue, sales decreased 8 percent on 7 percent lower shipment volume from the same period a year ago. The results reflect weakness in demand across all end-use markets.

Geographically, sales outside the United States decreased 4 percent from the same period a year ago to $258.4 million for the six months ended December 31, 2016. The decrease is primarily due to sales to Asia, Canada and the Middle East in the Aerospace and Defense end-use market partially offset by an increase in sales to Europe in the Aerospace and Defense end-use market. A portion of our sales outside the United States are denominated in foreign currencies. The impact of fluctuations in foreign currency exchange rates resulted in a $2.9 million decrease in sales during the six months ended December 31, 2016 compared to the six months ended December 31, 2015. International sales represented 32 percent and 30 percent of total net sales for the six months ended December 31, 2016 and 2015, respectively.

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Sales by End-Use Markets

We sell to customers across diversified end-use markets. The following table includes comparative information for our net sales, which includes surcharge revenue by principal end-use markets. We believe this is helpful supplemental information in analyzing the performance of the business from period to period:

($ in millions)	Six Months Ended December 31, 2016	2015	$ Decrease	% Decrease
Aerospace and Defense	$448.9	$483.2	$ (34.3)	(7)%
Energy	58.5	67.5	(9.0)	(13)%
Transportation	68.7	82.7	(14.0)	(17)%
Medical	51.4	58.0	(6.6)	(11)%
Industrial and Consumer	133.0	149.7	(16.7)	(11)%
Distribution	55.8	58.3	(2.5)	(4)%
Total net sales	$816.3	$899.4	$ (83.1)	(9)%

The following table includes comparative information for our net sales by the same principal end-use markets, but excluding surcharge revenue:

($ in millions)	Six Months Ended December 31, 2016	2015	$ Decrease	% Decrease
Aerospace and Defense	$372.5	$395.5	$ (23.0)	(6)%
Energy	52.8	58.5	(5.7)	(10)%
Transportation	59.2	69.0	(9.8)	(14)%
Medical	48.1	54.1	(6.0)	(11)%
Industrial and Consumer	118.5	129.5	(11.0)	(8)%
Distribution	55.5	58.0	(2.5)	(4)%
Total net sales excluding surcharge	$706.6	$764.6	$ (58.0)	(8)%

Sales to the Aerospace and Defense end-use market decreased 7 percent from the same period a year ago to $448.9 million. Excluding surcharge revenue, sales decreased 6 percent from the same period a year ago on a 5 percent decrease in shipment volume. The results reflect strong demand for engines driven by increasing demand from new engine platforms more than offset by a decrease in sales of materials used in fasteners and structural applications due to supply chain consolidation.

Sales to the Energy end-use market of $58.5 million reflect a 13 percent decrease from the same period a year ago. Excluding surcharge revenue, sales decreased 10 percent from a year ago on lower shipment volume of 8 percent. The results reflect the impact of the ongoing reduced drilling and exploration activity. The North American quarterly average directional and horizontal rig count, an indicator of drilling activity, decreased 14 percent from the same period a year ago. The lower oil and gas sub-market results were partially offset by an increase in demand for power generation materials.

Transportation end-use market sales decreased 17 percent from the same period a year ago to $68.7 million. Excluding surcharge revenue, sales decreased 14 percent on 18 percent lower shipment volume from the same period a year ago. The results reflect a weaker demand for heavy duty on-road and off-road truck production combined with growth of light vehicle production demand slowing.

Medical end-use market sales decreased 11 percent from the same period a year ago to $51.4 million. Excluding surcharge revenue, sales decreased 11 percent on